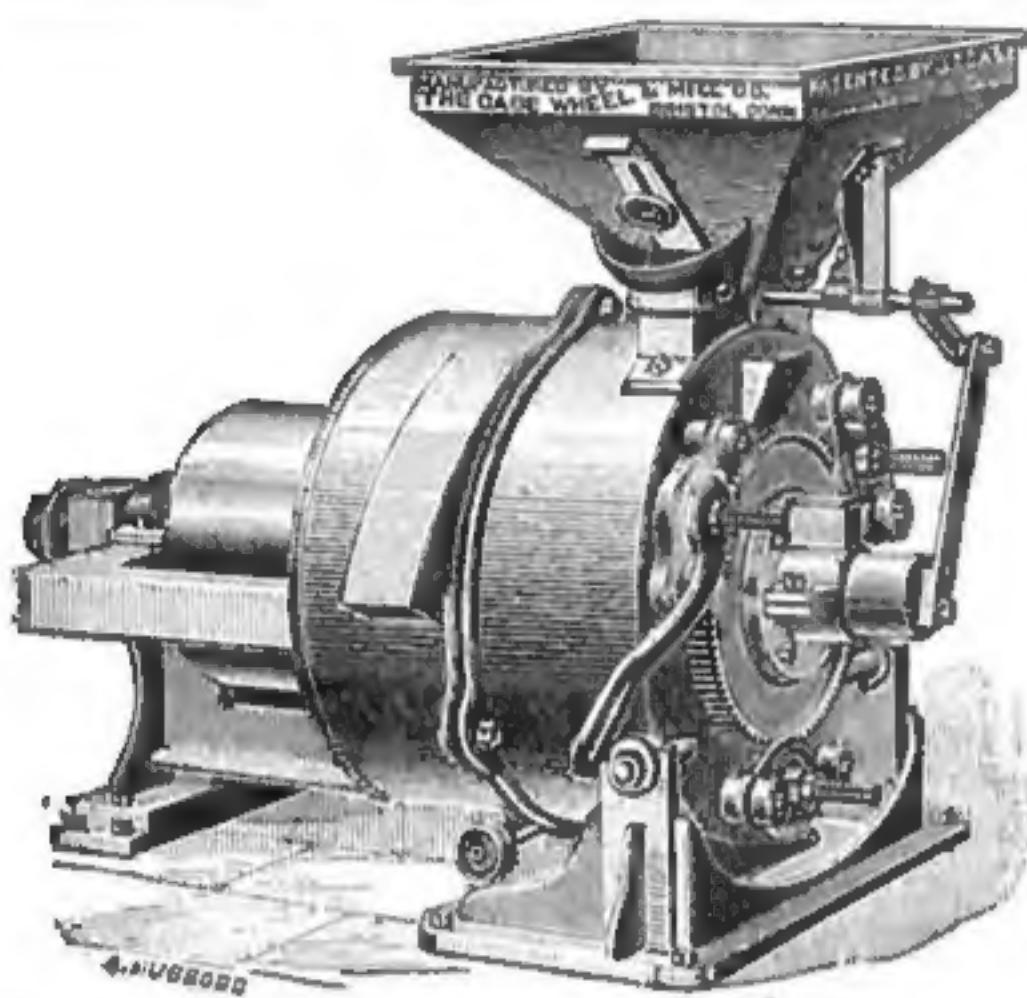


PUBLISHED EVERY MONDAY MORNING.

VOL. XX. No. 11.

BUFFALO, N. Y., MAY 13, 1889.

\$1.50 PER YEAR.



VICTORY OVER ALL OTHERS. SINGLE & DOUBLE VERTICAL GRINDING MILLS.

(J. T. CASE'S PATENT.)

FACTS ARE MIGHTIER THAN ASSERTIONS. READ WHAT THEY SAY:

"Our 20-inch mill made by the Case Wheel & Mill Co. is in every respect satisfactory, easy to handle, and best results obtained of any mill in the country, with same quantity coal and power."—A. S. RUSSELL & Co., Meriden, Conn.

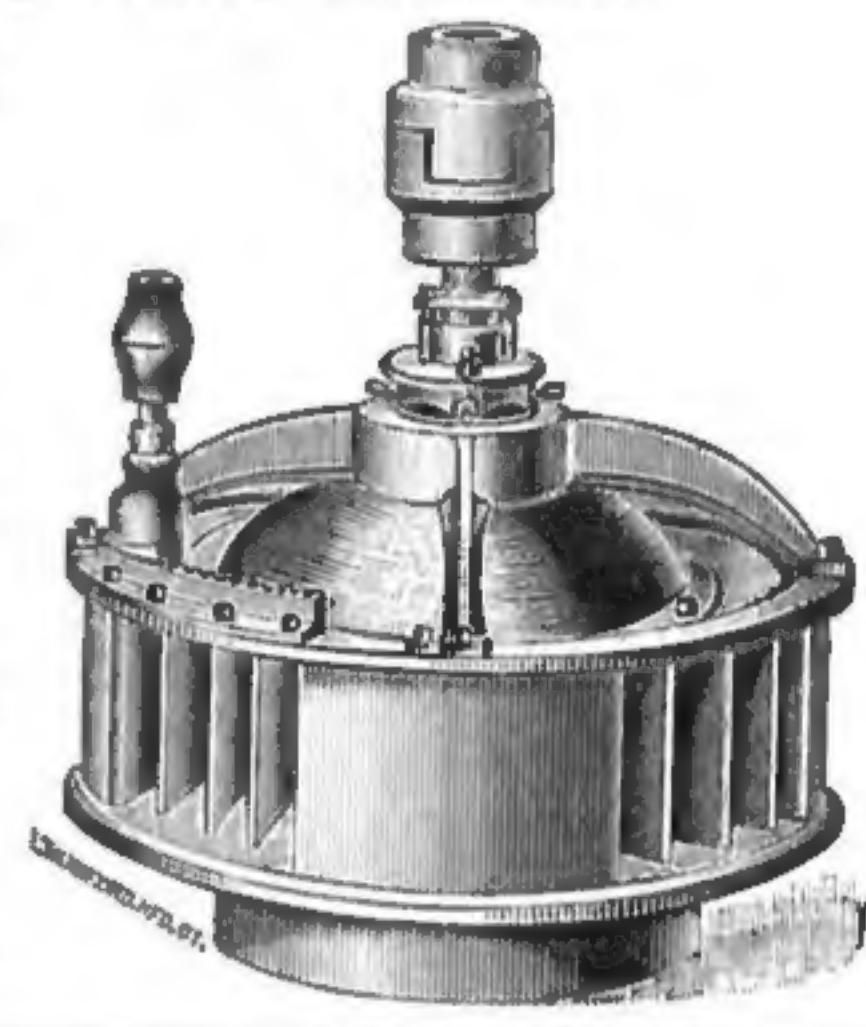
"Superior to any mill in use."—GEO. WESTON, Bristol, Conn.

"The best satisfaction in quantity and quality."—CHILD'S ELEVATOR, Manchester, Ct.

"We take pleasure in recommending it."—GARLAND, LINCOLN & Co., Worcester, Mass.

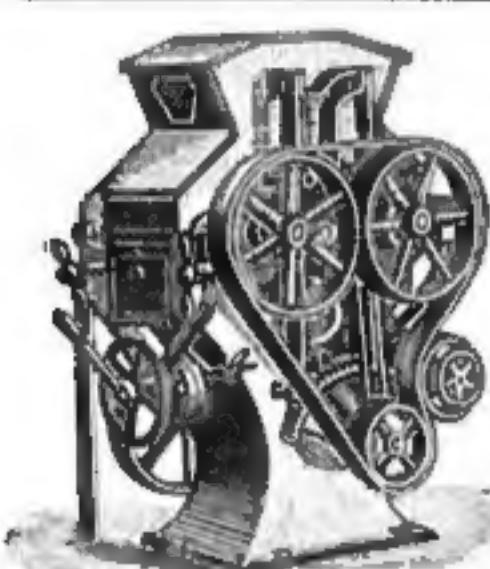
SEND FOR CATALOGUE—ILLUSTRATED AND DESCRIPTIVE.

The Improved National Turbine Water Wheel



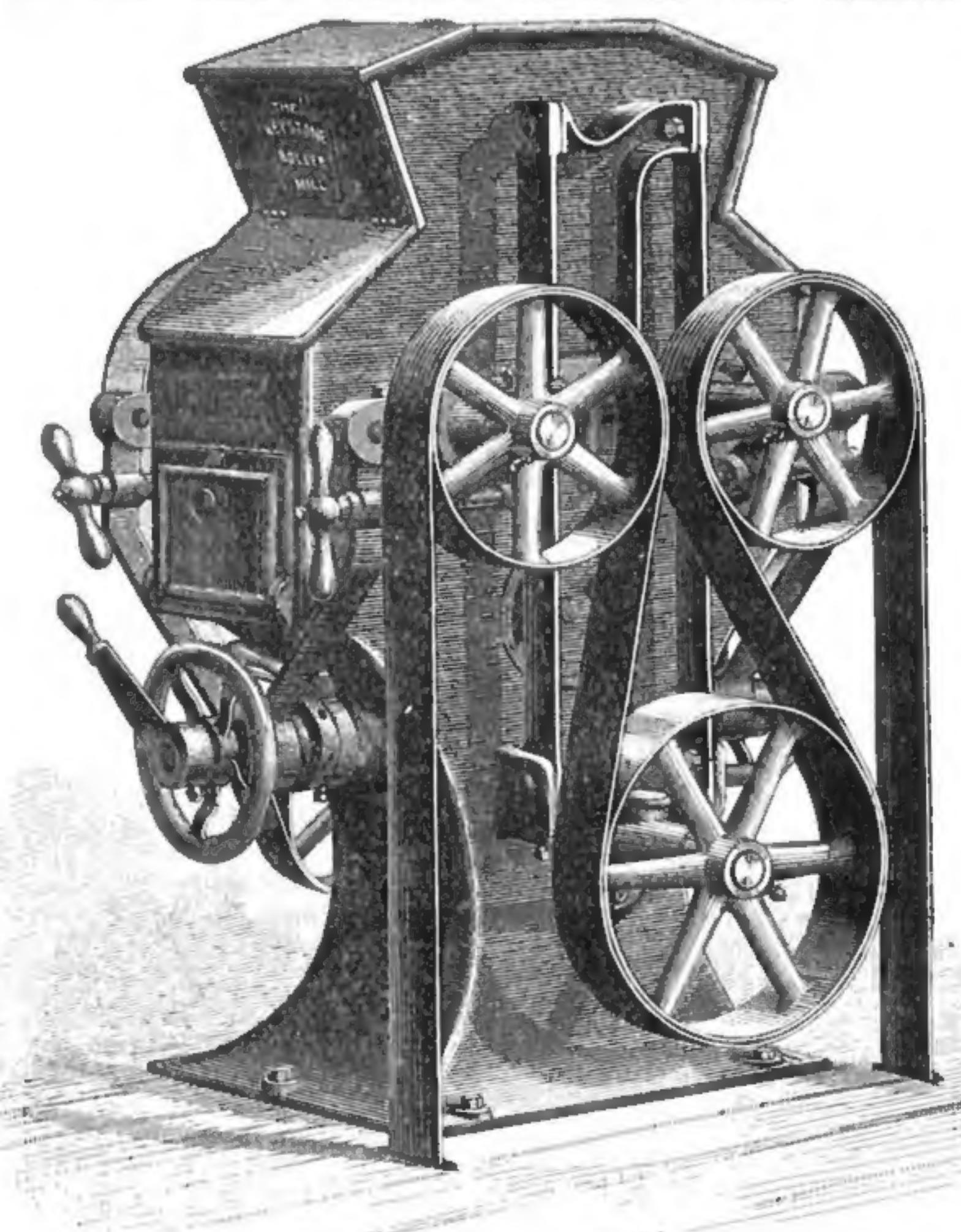
The Best for Economy; The Best for Durability; The Best for Power. ONE THOUSAND FIVE HUNDRED NATIONAL WATER WHEELS IN USE Prove that our Assertions are Supported by the Leading Manufacturers in the Country. Send for illustrated catalogue and prices to the manufacturers.

The Case Wheel & Mill Co., Bristol, Conn.



THE "KEYSTONE"

WHY IS IT THE BEST ROLLER MILL IN THE MARKET?



Wheat Roller Mill.

BECAUSE the adjustable roll is not pushed against its mate but is held rigidly to it, which takes out all vibration.

BECAUSE it does 25 per cent. more work than any other roll.

BECAUSE the heated air is taken out of the machine.

BECAUSE it has the best feeder.

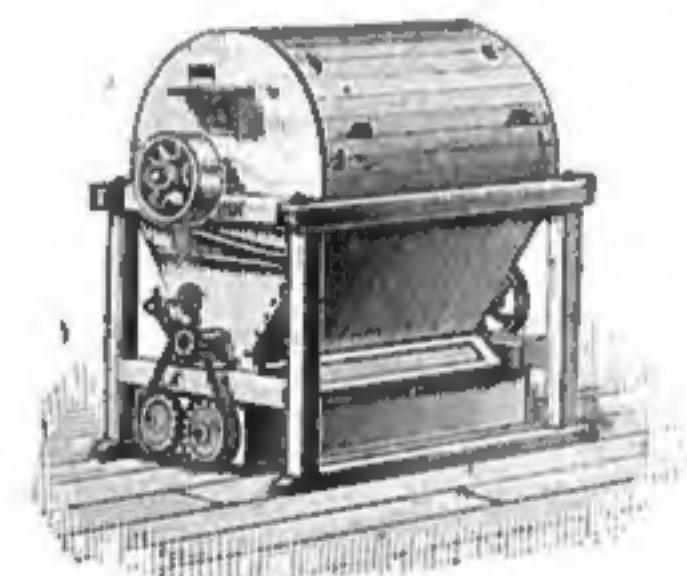
BECAUSE it has no tremor.

BECAUSE it has the effect of a roll without springs.

BECAUSE it can be trammed in a quarter of a minute.

BECAUSE you can tram either end of the four rolls.

Also ask for prices on the only Noiseless Sieve Scalper, the "Allfree" Improved Purifier, "Climax" Bran Dusters, and "Allfree" Flour Packer.



BECAUSE it runs 25 per cent. lighter than any other roll.

BECAUSE all bearings are universal and never get out of line.

BECAUSE you can throw the rolls apart from either side.

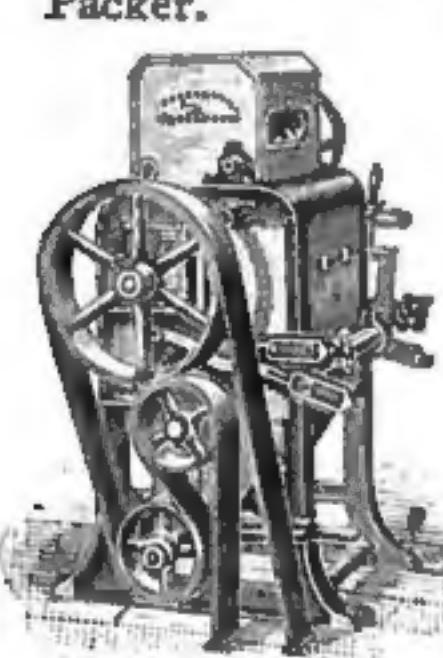
BECAUSE you can set both ends of the roll at the same time with one movement.

BECAUSE only one spring is used for both ends of rolls.

BECAUSE there is no slip to the differential.

BECAUSE no dust escapes from machine, all openings being covered.

Also ask for prices on "Allfree" Centrifugal Reels, "Success" Bolter, Three Reduction Corn Mills, Latest Improved Designs.



Complete Outfits for Flour or Corn Meal Mills of any Capacity.

THE J. B. ALLFREE CO., INDIANAPOLIS, IND.

103 & 105 South Pennsylvania Street.

Corn Mill.



Flour Packer.

Some Millers' Opinions EXPRESSED THIS YEAR, 1889.

SHREVE, O., Jan. 25, 1889.
THE CASE MFG. CO.

Gentlemen: We called at Bank Jan. 22d and paid our last note, which we believe closes our dealings so far as our contract with you for remodeling our mills is concerned. We want to say that we are entirely satisfied with all our dealings with you. Our mill is all we could expect, and is doing us good work. Extending to you our best wishes, we remain,

Very respectfully yours,
FOLTZ & BRENEAN.

—o—

WAVERLY, O., JAN. 27, 1889.
THE CASE MFG. CO.

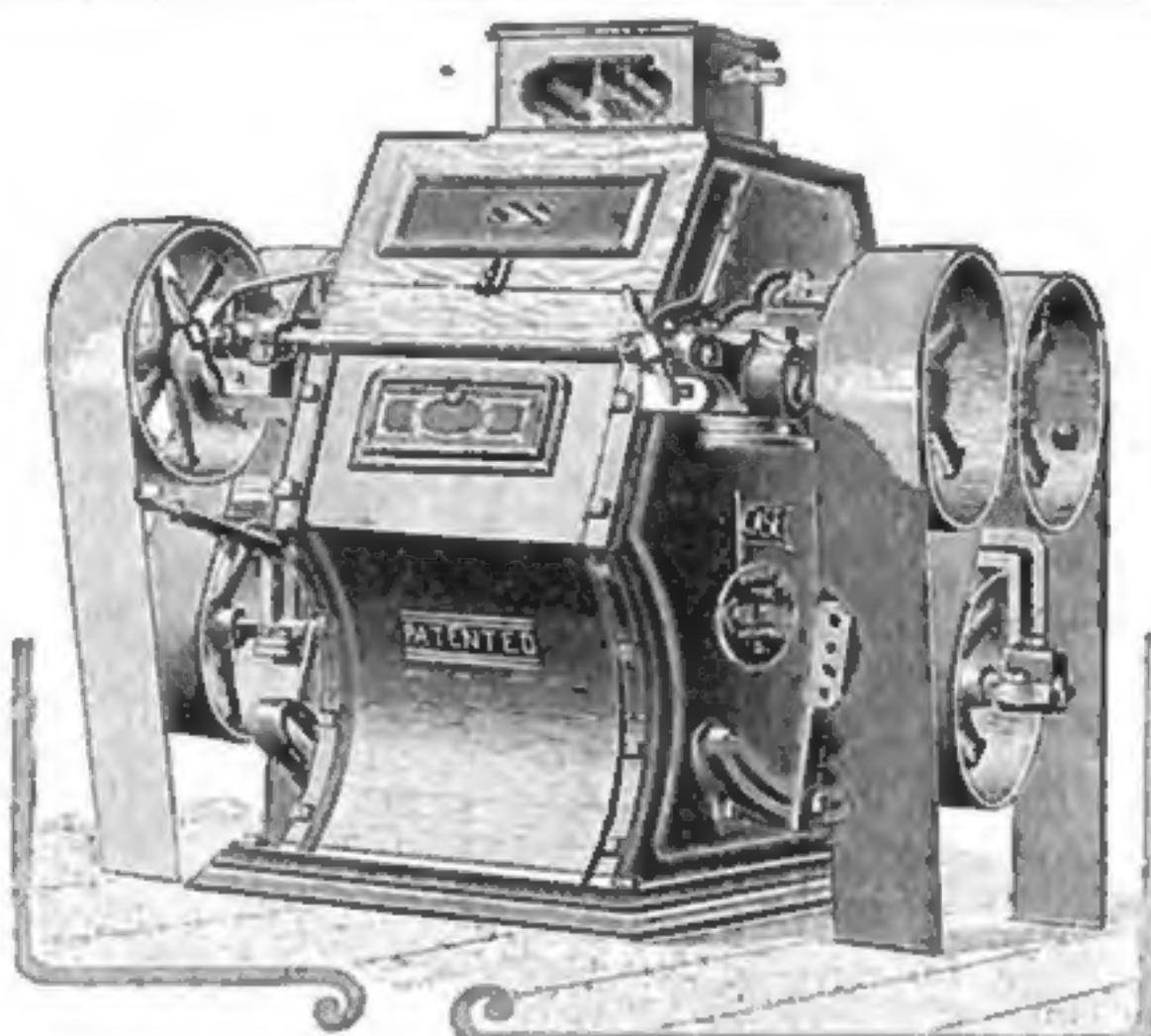
Gentlemen: Although it has been but a few weeks since I have gotten my Waverly Roller Mills started as recently re-furnished with your system of breaks and rolls, yet I have already learned to my satisfaction that your outfit of milling machinery is the best in use to-day. I am now making a grade of flour that is equaled by few and excelled by none, in fact superior to any flour produced in this part of Ohio, and is fast distancing all competitors in the market. I can conscientiously recommend you as General Mill Furnishers.

Yours truly,
JAS. EMMETT.

E. M. NEWTON. D. B. SMITH. G. TERRY.
OFFICE OF GUTHRIE MILL CO.,
GUTHRIE, KY., Feb. 26, 1889.
CASE MFG. CO.

Gentlemen: Yours of the 20th to hand and in answer to inquiry about the five Inter-Elevator Flour Dressers bought of you will say that they are working perfectly satisfactory, and we regard them as being the best bolts we have ever seen, and if we had to build another mill, would use no other. We will take pleasure in showing and recommending them to any one who may be in need of a Flour Dresser. Wishing you much success in the future, we remain,

Yours truly,
GUTHRIE MILL CO.,
By E. M. Newton.



The Gem Roll of the World.

LEONIDAS, MICH., Feb. 4, 1889.
THE CASE MFG. CO.

Gentlemen: In reply to yours of the 81st ult., as to how I liked your machinery, would say I have a 3-break mill using 8 double stands of 6x18 Case rolls, one double stand of 6x15 rolls made by another firm. We started our mill September 1, 1888, and I must say *your rolls are more than you claim for them*. They started from the word "go." Not a single "hot journal," or any thing else to cause any trouble in the least. The other stand has been a continual bother from the start, running hot, and the feed would not work only in bunches, and let me say right here that *they cost me more money than the Case did*, and I mean in the near future to displace it by a *Case*. Your feed is *simply perfect*. It feeds even the full length of the rolls, and the beauty of all is we can stop and start the Case Rolls without touching a single lever; the other stands wants two men to stop and start. I also have a double stand of 9x18 Case rolls for feed. It does good work with half the power a 36-inch buhr took for same amount of work. Should you wish to send any parties here to see my mill at work, I can prove to them all I have said. With very best wishes to the Case Company, I am, very respectfully yours,

GEO. ENGEL,
Successor to Espenhai & Engel.

WE BUILD NONE BUT FIRST-CLASS MILLS AND WILL GUARANTEE Each Mill We Build to Produce Results Excelled by None *COMPLETE LINE OF MILL SUPPLIES AT LOW PRICES.*

We have the most Complete Plant for Regrinding and Recorragating Rolls, and put in Any Style Cut Desired.

MACHINE WORK OF ALL KINDS DONE PROMPTLY.

—ADDRESS—

THE CASE MFG. CO., COLUMBUS, O.



CHRONICLE OF THE GRAIN AND FLOUR TRADE

PUBLISHED EVERY MONDAY MORNING.

VOL. XX. No. 11.

BUFFALO, N. Y., MAY 13, 1889.

\$1.50 PER YEAR.

MINNEAPOLIS mills report large production right along week after week. That short crop of spring wheat seems to be exceedingly elastic.

WHERE has a single flouring-mill in the United States been forced to suspend this season for want of grain to grind? The prophets of disaster, who were aiding the bulls on the crop of 1888, are discredited.

WHILE the Milwaukee convention is wrestling with "Speculation" and other evils that affect milling interests unfavorably, it might not be amiss to take a hack at one of the most maleficent evils that threatens to sap the very foundation of true milling, and that is milling poetry of the modern mushy, gushy, slushy stripe. If the Millers' National Association will only look into this matter, it will be found that the present general depression in milling is due, not to glutted markets, dear wheat, "Speculation," lack of exportation, or any other thing in that direction, but simply and solely to the distressing poetry that has been poured out in 3-break, 4-break, 6-break, 8-break, 13-break and bad-break long-and-short-high-and-low-system floods on our devoted industry. Let the convention move to secure an injunction to serve on the infernal mill-wheel-race-dust-cobweb-mossy-splashing-water rhymesters, and the winter of our milling discontent will suddenly become glorious summer. No industry could be buoyant under the leaden rhymes and the putrid slush inflicted on milling. Relieve milling of the ravings of the poets, and all will be well. It may be asked by same doubting sinner how the poetry could depress milling. Very easily. The demnition poems make readers dyspeptic. Dyspeptic readers lose their appetites. Lost appetites mean diminished consumption. Logically, diminished consumption means less demand on a growing supply. That implies glutted markets, and the chain of ruin is complete. Therefore, abolish the poets, even before abolishing "Speculation." Poetry alone would be bad enough. "Speculation" alone would be bad enough. Poetry and "Speculation" both at the same time would mean ruin to the whole milling industry.

MANY millers are writing to us concerning the convention of the Millers' National Association in Milwaukee in June. They wish to know whether, in the opinion of THE MILLING WORLD, it will pay to attend that convention. One asks: "Is it to be a millers' convention, pure and proper, or a speculators' convention?" We do not know. It is proposed by the chairman of the executive committee to fight "Speculation" during the convention. We are not informed just what particular stripe of "Speculation" the convention will tackle, but if "Speculation" in general is tackled, it will not be a speculators' convention. How much of a millers' convention it may be can not be foretold, but, from the few preliminaries known, it is safe to say that the percentage of "miller" in it will be something less than 100. Another asks: "Will it pay to attend the convention?" That depends. It will cost some money to attend it, and those who do attend will enjoy relaxation from duty, a pleasant journey, through a pleasant country, in a pleasant season, to a pleasant city, in

pleasant company, and they will be pleasantly entertained by the hospitable Milwaukeeans. Convert all the pleasure into dollars and cents and compare the total with the expenses of the trip, and you will be able to decide whether the trip will pay or not. There will be a good time all around. It could not be otherwise in a party of Americans, and particularly of American millers. If the convention were not held at all, the milling interest would go right on, unconscious of any loss. If it is held, the milling interest will not feel benefited by the gathering. Use your own judgment, Messieurs Inquirers. If the meeting were to be conducted in accordance with the ideas of THE MILLING WORLD and its esteemed cotemporaries, it would be so well worth attending that no miller could afford to miss it.

A YEAR or two ago the milling industry of Great Britain was in a very depressed condition. It was then that the editors of American milling journals were given to offering cold comfort to the British miller by assuring him that while his condition was certainly an unpleasant one, he must make up his mind to grin and bear it, as the superiority of American wheat, American machinery and American brains was certain to insure the continued supremacy of American flour in the British market. To-day the tables are turned in favor of British millers. The advance in the price of wheat in the United States, due to a short crop, has increased the cost of American flour to an extent which will not allow it to be exported and compete with the product of British millers, with their abundant supplies of grain from Russia and other countries. In consequence, the British millers who, by the way, have also greatly improved their milling facilities, are grinding at a profit, while American millers are surveying their idle mills and sadly wondering whether it will ever be possible to regain their lost advantage in the British markets. In the case of the British millers the whirligig of time has certainly brought its revenges.—Toronto "Dominion Mechanical and Milling News." Was ist los mit the liver of our Canadian friend? Suppose our present crop prospects are realized and we reap a 450,000,000 or 500,000,000 bushel crop of wheat in July and August, while Russia goes back to or below her average yield, what will the British millers do then? Or, suppose the price of wheat drops 10 or 15 cents lower in June than it now is, and the United States reserves shell out 30,000,000 or 40,000,000 bushels unexpectedly, what will the British millers do then? Our unprejudiced opinion is that the "revenge" of the British millers is destined to be of short duration. Their methods of grinding make them unable to compete with American and Hungarian millers. Read Thoms and Jago. As to the "superiority of American wheat, American machinery and American brains," mentioned by our cotemporary, it is true that such a thing exists, because our British friends insist on reminding us constantly that it exists. The British writer who leaves out the traditional sneer at "Yankee cuteness" is a freak who is worth \$22,000,000 a week in a museum. Will our neighbor locate some of those "idle mills" for us? Neighbor, you need to edit the editor of your bile department!

COMPOUND Condensing or Non-Condensing.
16 SIZES, 5 to 500 H. P.
Not yet equaled by any form of Engine for HIGH FUEL DUTY AND SIMPLICITY.

STANDARD 13 Sizes in Stock.
5 to 250 H. P.
3000 in use in all parts of the Civilized World.

JUNIOR 6 Sizes in Stock,
5 to 50 H. P.
An Automatic Engine cheaper than a Slide Valve.
WELL BUILT. ECONOMICAL. RELIABLE.
Over 300 Sold the First Year.
All the above built strictly to Gauge with INTERCHANGEABLE PARTS.
REPAIRS CARRIED IN STOCK.
SEND FOR ILLUSTRATED CATALOGUES.

WESTINGHOUSE
ENGINES

The Westinghouse Machine Co.
PITTSBURGH, PA. U.S.A.

SELLING DEPARTMENT IN THE UNITED STATES.

New York,	17 Cortlandt St.	Westinghouse, Church, Kerr & Co.
Boston,	Hathaway Building,	
Pittsburgh,	Westinghouse Build'g,	
Chicago,	156, 158 Lake St.	
Philadelphia,	608 Chestnut St. M. R. Muckle, Jr. & Co.	
St. Louis,	302, 304 Washington Av.	
Kansas City,	312 Union Avenue,	
Denver,	1330 Seventeenth St.	
Omaha,	1619 Capitol Avenue, F. C. Ayer.	
Pine Bluff, Ark.	Geo. M. Dilley & Sons.	
Salt Lake City,	259 S. Main St.	
Butte, Mont.	2. Granite St.	
San Francisco,	21, 23 Fremont Street, Parke & Lacy Co.	
Portland, Or.	33, 35 N. Front St. Parke & Lacy Mch. Co.	
Charlotte, N. C.	36 College St.	
Atlanta, Ga.	45 S. Prior St.	
Dallas, Tex.	Keating Imp. & Machine Co.	
Chattanooga, Tenn.,	G. E. James & Co.	

Dawson's Roller Mill

Is acknowledged to be the very best in the market. It has our Patent Automatic Centrifugal feeder, never failing to feed the stock the full length of rolls in an even sheet. It is the Latest and Best feed out, uses less power and is simple in construction. It can be placed on any style of machine with little expense. We use for roll bearings phosphor-bronze metal which will admit rolls being run at any speed without heating and with little friction, and uses little oil. We use the Dawson Corrugation, which is admitted the best in long or short system mills as the action is granulating rather than CUTTING.

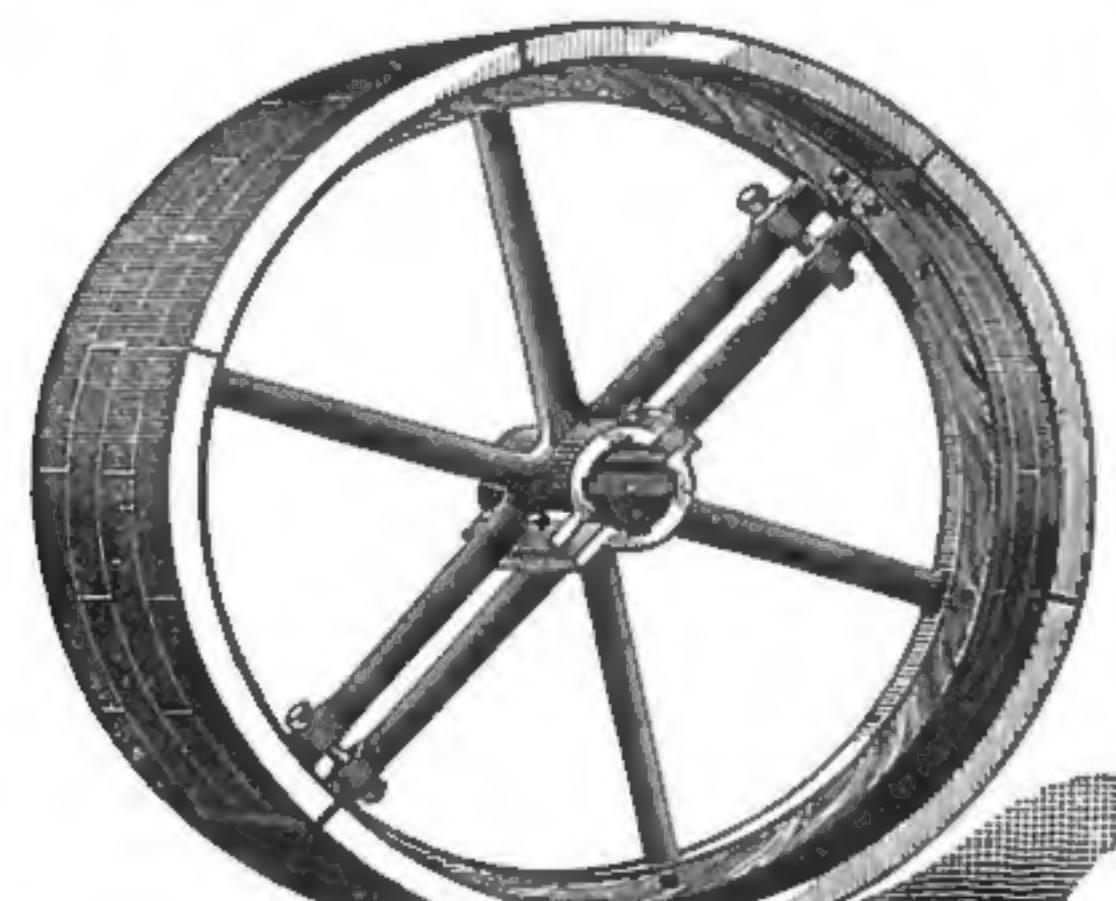
We have a large plant to Re-grind and Re-Corrugate Rolls.

Owing to our late increased facilities and central location we are enabled to ship goods promptly on the shortest notice.

PARTIES CONTEMPLATING REMODELING THEIR MILLS OR BUYING ANY ROLLER MACHINES ARE REQUESTED TO PUT THEMSELVES IN CORRESPONDENCE WITH US.

FOR PRICE LISTS AND CIRCULARS, ADDRESS,

Dawson Roll Works, Harrisburg, Pa.



BIRD & CRANE MFG. CO., KALAMAZOO, MICH.

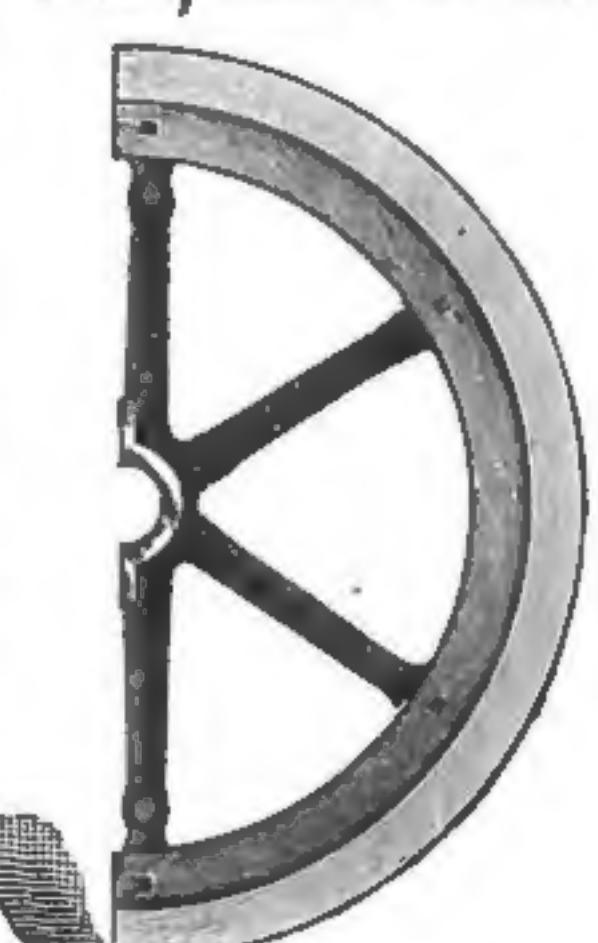
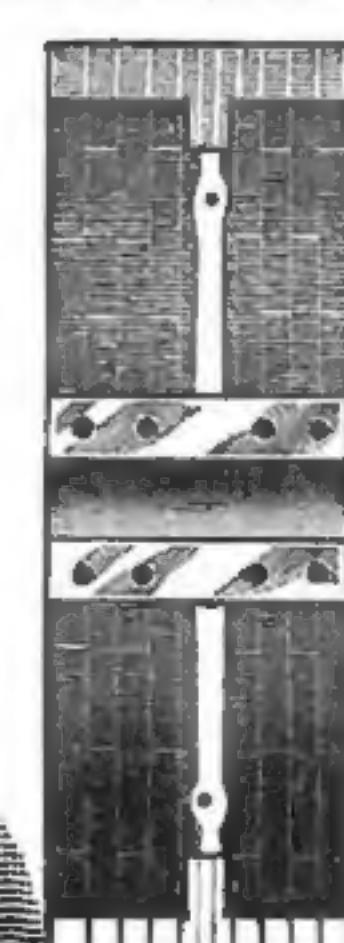
MANUFACTURERS OF PATENT

Wood Split Pulleys

WOOD RIM WITH IRON ARMS.

The Best Pulley on Earth!

Is very easily and quickly adjusted to Shaft. Has Patent Iron Bushings Interchangeable, to Fit Different Diameters of Shafts. Has FOUR or SIX Bearings on Shaft. This fastening never slips. Every Pulley strongly built and perfectly balanced.



SEND FOR CATALOGUE AND PRICE LIST.

MILLING WORLD

AND
CHRONICLE OF THE GRAIN AND FLOUR TRADE

PUBLISHED EVERY MONDAY. OFFICES: Corner Pearl and Seneca Streets, Over Bank of Attica.
McFAUL & NOLAN, - - - PROPRIETORS.
THOMAS MC FAUL. JAMES NOLAN.

SUBSCRIPTION.

In the United States and Canada, postage prepaid, \$1.50 Per Year, in advance; remit by Postal Order, Registered Letter, or New York Exchange. Currency in unregistered letter at sender's risk.

To all Foreign Countries embraced in the General Postal Union, \$2.25 Per Year, in advance.

Subscribers can have the mailing address of their paper changed as often as they desire. Send both old and new addresses. Those who fail to receive their papers promptly will please notify at once.

ADVERTISING.

Rates for ordinary advertising made known on application. Advertisements of Mills for Sale or to Rent; Partners, Help or Situation Wanted, or of a similar character One cent per word each insertion, or where four consecutive insertions are ordered at once, the charge will be Three cents per word. No advertisement taken for less than 25 cents. Cash must accompany all orders for advertisements of this class.

Orders for new advertisements should reach this office on Friday morning, to insure immediate insertion. Changes for current advertisements should be sent so as to reach this office on Saturday morning.

EDITOR'S ANNOUNCEMENTS.

Correspondence is invited from millers and millwrights on any subject pertaining to any branch of milling or the grain and flour trades.

Correspondents must give their full name and address, not necessarily for publication, but as a guarantee of good faith.

This paper has no connection with a millfurnishing house and aims to represent the trade without prejudice, fear or favor.

Address all communications

THE MILLING WORLD, BUFFALO, N. Y.

Entered at the Post Office, at Buffalo, N. Y., as mail matter of second-class.

SITUATIONS WANTED.

Advertisements under this head, 25 cents each insertion for 25 words, and 1 cent for each additional word. Cash with order. Four consecutive insertions will be given for the price of three.

BUCKWHEAT MILLING A SPECIALTY.

A reliable Roller Miller wants work. Can make one-third more buckwheat flour than average millers, conditions the same. Granulated meal, etc. H. N. Z., 228 James street, Buffalo, N. Y. 710

SPECIAL ADVERTISEMENTS.

Advertisements of Mills for Sale or Rent, Partners Wanted, Machines for Sale or Exchange, etc., etc., cost 1 cent per word, for one insertion, or 3 cents per word for four insertions. No order taken for less than 25 cents for one insertion, or 50 cents for four insertions. Cash must accompany the order. When replies are ordered sent care of this office, 10 cents must be added to pay postage.

MILL FOR SALE.

Flour mill; water power; good location; on easy terms. For information address, THOS. BRODERICK, Byron, Olmsted County, Minn. 611

FOR SALE OR RENT.

G. ist-Mill and Woolen Factory. Also large two-story frame building. Very convenient for woodenware works. Good water power and shipping point, on line of three railroads. Apply to M. D. OLNEY, Irvine, Warren county, Pa. 811

FOR SALE.

Several good second-hand and new turbines of various styles. Second-hand price list and descriptive matter and prices of our new machines sent free. Every one interested in the shortest route to successful milling on rolls or in grinding corn and feed with the least expense of power, should address us before buying.

FLENNIKEN TURBINE CO., Dubuque, Iowa

81f

MILL MACHINERY FOR SALE.

One No. 0 Standard Combined Separator, Smutter and Brush Machine; new, best make. One 20-Inch Vertical Portable Mill, French Buhr Stone, hung on horizontal shaft; capacity 25 to 40 bushels per hour; new, best make. One 14-Inch Vertical Feed Mill; best make, new, a bargain. One No. 6 Dustless Separator; new, a bargain. One No. 1 Full Rigged Combined Dustless Separator; new, a bargain. Four Corn Cob Crushers, right or left hand, driven from above or below, best make; capacity 40 to 60 bushels per hour. Two No. 1 Corn Shellers. New. One No. 2 Purifier. New. Best make. A bargain. For particular address, FRANK SMITH, care of THE MILLING WORLD, Buffalo, N. Y. 51f



If you are desirous of obtaining the best Mill or Cob Crusher, send for our catalogue and be convinced that our's fill the bill. Can not fail to please you. They are guaranteed to prove as represented.

C. C. PHILLIPS,

OFFICE, 20 SOUTH BROAD STREET,

PHILADELPHIA, PA.

NEVER-FAILING WATER-POWER

FOR SALE OR TO LET.

Situated at the junction of two rivers, 95 miles from New York City, on the West Shore Railroad. Mill site against track. A NATURAL ROCK DAM with from one hundred to one thousand horse power. Railroad siding on premises. Station, post and telegraph offices in sight. Factory employees to be had at low wages. Further particulars given by addressing. 411

HOWARD FINGER, - - SAUGERTIES, N. Y.

FOR SALE.

One half or whole, or to rent, a first-class 4-run mill; stone building; never failing water power; good custom and retail trade. Address, N. R. SHEPARD, Marcellus, Onondaga county, N. Y. 11

FOR SALE.

"Genesee Valley Mill," situated 27 miles south of Rochester, N. Y., on the Genesee River. Abundance of water power at all times. Western New York & Pennsylvania R. R. runs past its door. No carting needed; loads and unloads cars by elevators and spouting. Coal sheds, etc. Good trade. Size of main building 30x50 feet, four stories; wing 30x36 feet, two stories high. Three sets of first-class stones, one double set of rollers, all in good order. Large pump in mill to supply water for large salt block near by. Pump pays about \$300 per year. Splendid wheat country. Suitable dwelling house near by. Inquire at mill, or address, S. H. BASOM, Administrator, Alabama, Genesee county, N. Y. 1114

BRITISH information at the close of April indicated that in the important Central Provinces of India the wheat acreage is 10 per cent. below that of last year, while the yield promises to be a third below that of last year. It will be no news to readers of THE MILLING WORLD when the announcement is made that India has passed the climax of her importance as a wheat-producer.

ACCORDING to a statement made by one of our contemporaries, the "Milling Engineer," for some years edited by Mr. Albert Hoppin and published by Messrs. E. P. Allis and Company, of Milwaukee, Wis., has passed into the hands of Mr. Harrison Cawker, of the same city. It is said that Mr. Cawker, who owns the "United States Miller," will consolidate the two journals. Success to the consolidated "Engineer" and "Miller."

CANADIAN millers have not yet been able to induce the Canadian government to protect their industry by a properly proportioned import duty on flour. The Canadian flour-makers are placed at a disadvantage by the present duties on grain and flour, and the government proposes to hold them to that disadvantage solely to benefit a few consumers in the far-eastern provinces. Ontario and Manitoba must bear the burden of competition for the benefit of New Brunswick and Nova Scotia. The Ontario and Manitoba millers have one way of escape from odious discrimination. They can come to the United States to live.

CACOPHONICAL cachectical wegotism, complicated with hebetudinous micromental rhombo-cephalicy, continues to characterize the auto-inflatorial pseudo-philosophical milling-editorial gabble that gushes from the spouting Minneapolis artesian bore.—MILLING WORLD. An "artesian bore" is good. An open sewer, however, is an abomination, and though but few may suffer from its nauseous exhalations, it is a pity it can not be stopped.—United States Miller. Well, Colonel, you can stop it just as soon as you wish to. Your particular sewer certainly does not make many people suffer, and, having bitten off more than you can masticate, you will probably soon succeed in making even those few unfortunates, thrown into your hands by a business accident, wish that you would stop your nauseous exhalations.

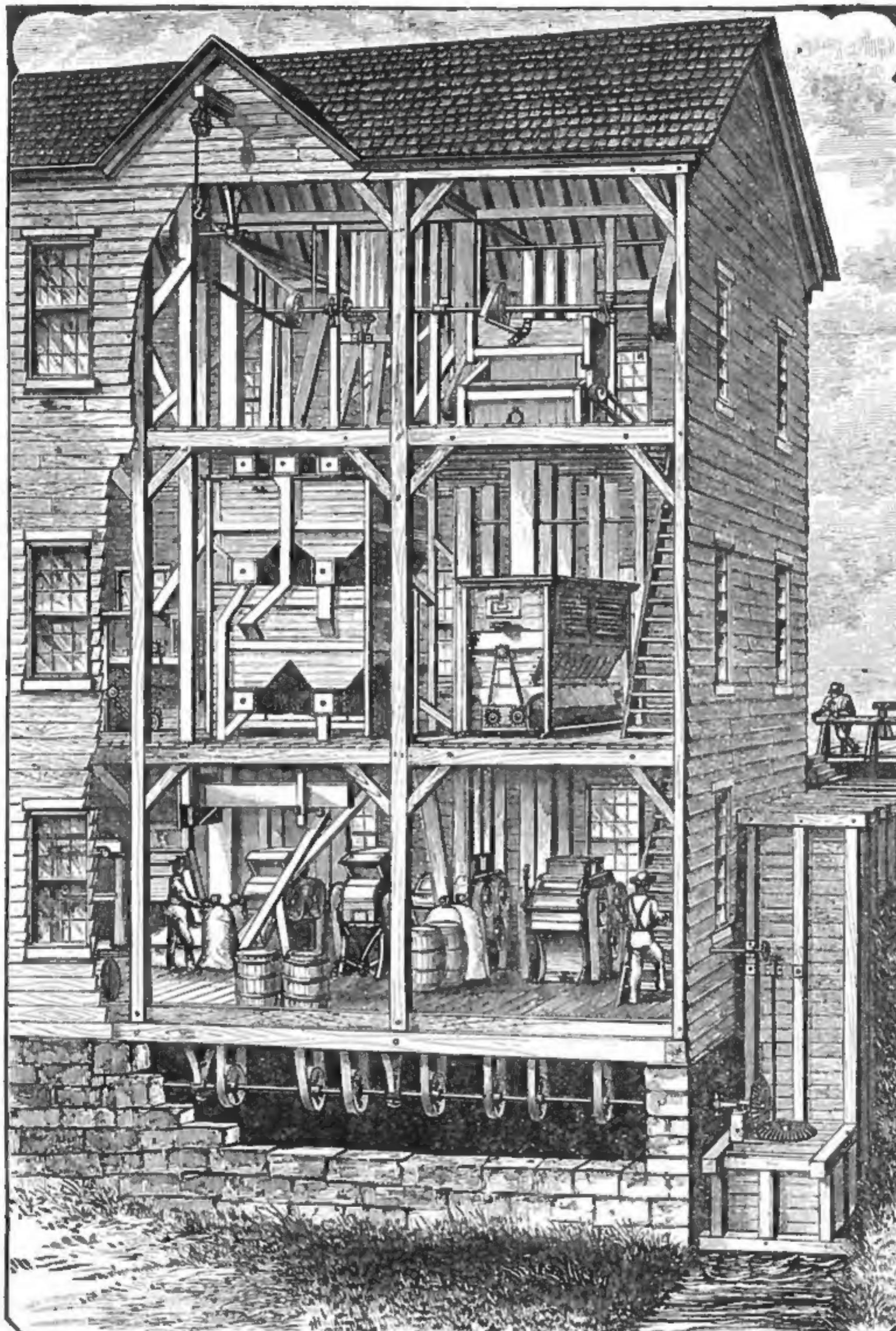
THE announcement that the "Milling Engineer" had passed into the hands of Editor Cawker, of the "United States Miller," made us hope that the passage would not result in extinguishing the former and that it would elevate the latter. Judging from the consolidated publication, "The United States Miller and the Milling Engineer," the first number of which is at hand, that hope is disappointed. Every bright feature of the "Milling Engineer" is wanting in the consolidation, which is quite as flat, stale, unprofitable, incoherent and scattering as it could well be. It contains a few more advertisements than the "United States Miller" did, but they will disappear as fast as they expire, and the act of swallowing will probably result in death to both swallowed and swallower.

THE LEFFEL IMPROVED DOUBLE TURBINES.

Recently important changes have been made by Messrs. James Leffel and Company, of Springfield, Ohio, in their celebrated "Old Reliable" double turbine water-wheel. They claim that, in its present shape, it will give more power, while using less water, than any other wheel extant. Since the introduction of the Leffel wheels twenty-five years ago they have become deservedly popular and are largely used in flouring-mills throughout the country. The following description of the improved pattern, taken from a recent catalogue issued by the manufacturers, will interest our readers. They say of it: "There is in it a combination of two independent sets and kinds of buckets, one a vertical and the other a central discharge, each entirely different in its action upon the water, yet each wheel or series of buckets receiving its water from the same set of guides at the same time; but the water is acted upon but once, since half the water admitted by the guides passes to one wheel and the other half to the other wheel being nicely separated and divided by the partition or diaphragm between the two wheels, the water leaving both wheels or sets of buckets at the same time and as quickly as possible. These two sets of buckets are so combined as to make really but one wheel; that is, both are cast in one piece and placed upon the same shaft. By this arrangement there is admitted the greatest possible volume of water to a wheel of any given size, consistent with its economical use, at both full and part gates, and at the same time the greatest area for the escape of water is secured. The surface in the wheel is thus reduced to a minimum as compared with the quantity of water used, avoiding a very material loss by friction, which otherwise seriously diminishes the working power of the wheel, an arrangement, the value of which will be appreciated by those who understand the practical effect of the frictional surface in a water-wheel." Not only have the various parts been greatly improved in design and ease of adjustment, but

facilities for perfected manufacture of the entire wheel have been greatly increased from time to time. During the past few months new, extensive and convenient works have been built by the manufacturers. These have been fitted out with entirely new, costly and specially designed machinery, constructed for the sole purpose of imparting to the wheel the necessary accuracy of workmanship and of reducing the cost of manufacture, so as to enable them to offer not only the best, but the cheapest and most reliable water-wheel in the market. Among the many attractive improvements in the new-form Leffel wheel are to be noticed the improved link for operating the gates; the process for lining the iron plates with brass or anti-corrosive metal, when specially ordered; the combination of toothed segment with gate-arm so that the segment can be removed when the teeth become worn and a new one supplied; the spherical iron pen-stock; the use of steel gates or guides for some sizes instead of iron, and

the improved method of casting in one piece both wheels, by means of which the edge of the diaphragm can be made much thinner, and yet stronger, assisting also to separate more perfectly the due proportion of water to each wheel, while enabling the buckets successfully to withstand the shock of blocks, stones and other rubbish to which they are so often subjected. Half the buckets being good boiler iron, and the fillets retaining them improved, both in form and strength, it is impossible to break or tear out any of them. The smaller engraving shows this new form of the wheel. The larger engraving shows a general arrangement and application of water-power to roller flouring-mills. The application of the water-wheel is very simple. In this instance a high pen-stock with a decking is shown, and an improved Leffel wheel of ordinary size is placed in the elbow of the decking. By means of the usual pair of bevel-gears the power is transmitted to a horizontal shaft, to which are attached the belts leading to the roller-mills and to any other machinery that may be located on the first or principal floor. In case larger water-wheels are used on lower-heads of water the decking or high pen-stock may be dispensed with and the gearing placed immediately on top of the pen-stock, and sufficient space still be obtained in the basement in which to locate the main power or horizontal shaft. The latest circulars of the makers contain all information that may be desired.



THE LEFFEL WHEEL APPLIED TO A ROLLER MILL.

there, nor remove it if it was. I am free to admit that it was with considerable hesitation that I decided on changing my wheat-cleaners. They were nearly new and were doing what I then thought very superior work. To decide what machines to put in place of them was no easy matter. Many are offered; all are more or less good. It struck me that if I wanted the best, the only way to find out which was the best was to see them all in practical operation, obtain samples, and thus with a fair knowledge of their merits satisfy myself. I took several trips and examined the workings of about all the leading machines for the purpose. Close watching and careful comparison turned the balance strongly in favor of the machines I have adopted. Before shutting down for the change I made a thorough test-run, weighing every thing and keeping an accurate record, as well as a selected line of samples. In fact, I was more than exact, as I was determined to settle this crease-dirt

EXPERIMENTING WITH
CREASE DIRT.

Practical investigation has convinced H. A. Hueffer, of Palmer, Ill., that there is no crease-dirt in wheat. He summarizes his experimenting in a letter to "The American Miller" as follows: "Having studied up the matter pretty thoroughly and viewed it in every light, I was forced to the conclusion that the cleaning of the wheat was the objective point. I was convinced that my grinding and bolting arrangements were correct, and that they could neither make crease-dirt if it was not

question, at least so far as I was concerned. The changes were not difficult to make. The new cleaners displaced the old ones, and the spout was so arranged that I could run the clean wheat first through a splitting-machine and brush-scalper which I had been using, then switching the spout so that the clean wheat would go direct to rolls without the splitting and brushing process. This arrangement gave me a chance to make a fair trial both ways. All being in readiness, I started up. The cleaners filled the bill. Considerably less power was taken, and the work—well, I am more than satisfied and am convinced that there is not a mill in this country that has cleaner wheat to grind than mine, and but few to equal it, unless using the same machines.

"Having had several good runs with and without the splitting and brushing process, and having compared with samples retained when the old cleaners were used, I am satisfied in my own mind that there is no such thing as crease-dirt. I find now that I get a better yield and a clearer flour than formerly, although my work then was way above the average. When "splitting" for crease-dirt there was a well defined change for the worse, both in color and yield. I feel almost sorry that I was unable to demonstrate that crease-dirt does exist. I have been a firm and consistent believer in it. I had previously experimented to a certain extent to my own satisfaction, and feeling so certain and secure in my belief, have recommended to my friends machines for its removal. The strongest arguments have failed to change my ideas. I wanted a practical demonstration. I have had it. I wish that I could have had that demonstration some years ago. I could have saved some money. If any crease-dirt believers take exception to my method of testing, I beg to say that I would be only too glad if they would come to my mill and investigate."

**SENSIBLE HINTS FOR
BREAD-MAKERS.**

Following are some sensible hints to bakers sent out by the manufacturers of one of the well-known fancy brands of flour: 1. Bread should always be mixed as soft as it can be handled. It will rise sooner and higher, be lighter and more digestible and keep fresh longer. 2. All the processes attending baking should take place in a moderately warm room, as cold arrests fermentation. Too much heat will make it ferment too fast. 3. Always sift your flour when you use it, warming it a little afterward if the weather be cold. Sifting twice is even better than once, as you get more air between the particles. 4. Bread should be kneaded thoroughly and faithfully from all sides until it rebounds like India-rubber after a smart blow of the fist upon the center of the mass. Lazy people are therefore never good bakers. 5. Poor yeast will make poor bread. 6. The best is cheapest. Never use poor flour. It does not pay. You can always afford to pay for reliable flour 25 cents, 50 cents, or even \$2 per barrel more than for wild-cat brands of Cheap John flours. Adulterated flours, "doctored" with alum, are not cheap at any price. 7. Don't have the oven too hot, but have it hot enough, and keep the heat steady after you put the bread in. 8. When the bread is taken from the oven it should be tilted on edge upon the table, the upper part supported by the wall, and a coarse, dry cloth should be thrown over it until the loaves cool. Bread keeps best

in a tin box or earthen crock with a cloth at the bottom enwrapping the loaves.

CONTEMPORARY COMMENT.

There has been a tightening up in the inspection of wheat in Minneapolis and Duluth, and the elevator and commission men are in arms about it. The grading is merely being put back to where it was last September.—*Chicago "Daily Business."*

Some of the most pronounced high-tariff men are now forced to admit that combination ends in the fiercest kind of competition.—*St. Louis "Merchant, Miller & Manufacturer."*

The promise of an enormous wheat crop all over the land gives new courage to many millers, who for months past have had to ship certain grades of wheat at heavy expense or shut down. A couple of months more and the new crop will be well in hand, and some of it in the mill at far Southern points, when the agony will cease.—*St. Louis "Miller."*

THE LOST ATLANTIS.

For many centuries there has been a tradition of a long lost island called Atlantis.

The Greek geographers located it in the Atlantic Ocean, west of the northwest part of Africa and the Pillars of Hercules. The sea-kings of Atlantis are said to have invaded Europe and Africa, and to have been defeated by the Athenians.

All the legends agree that it was a vast island, of inexhaustible resources, and inhabited by a race of superior people. For ages this island has existed only in legendary lore. But now, when the light of modern research is turned full upon the investigation, behold the lost Atlantis at our very door.

So the bigoted medical fraternity goes groping about in the dark. If they would investigate, they would behold the lost Atlantis at their very door. They experiment and dose with their injurious drugs, and with no person or laws to hold them accountable, they continue their bigoted, unjustified practice, staring into vacancy, imagining that they see in themselves an Esculapius.

Wrapped in ancient bigotry, they denounce any new idea advanced by a layman or an opposition school as a fraud.

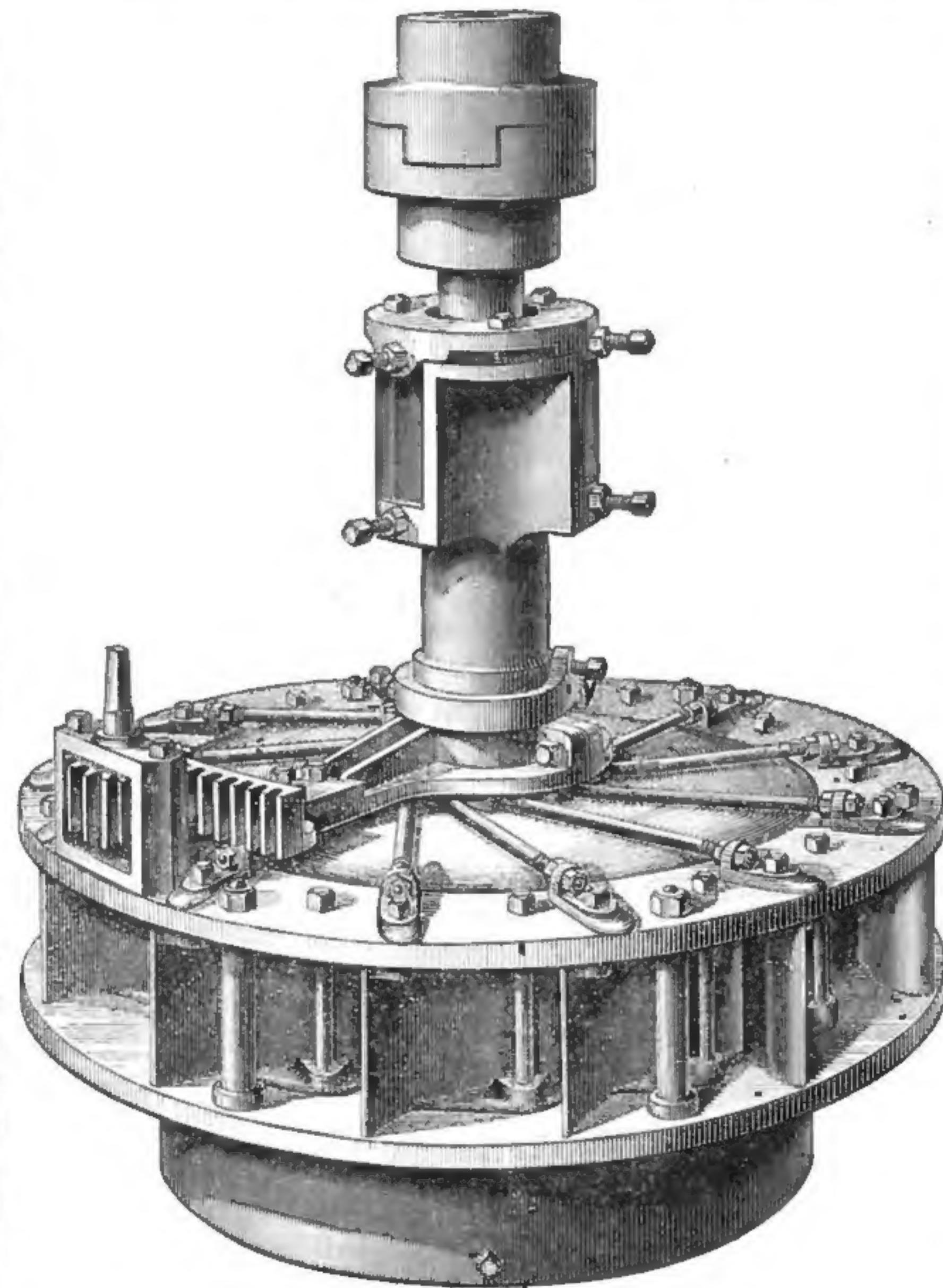
Why?

Because humanity will not be benefited? Not at all, but because their specialism did not make the discovery.

Yet they concede that there is no remedy known to their *materia medica* that will cure an advanced kidney malady and the diseases arising therefrom—although many of them know from crowning proof that Warner's Safe Cure will—but unscrupulously treat symptoms and call them a disease, when in reality they know they are but symptoms.

A few of the more honest physicians admit that Warner's Safe Cure is a valuable remedy, and a great blessing to mankind, but say, in so many words, when asked why they do not prescribe it, that they can not, according to their code. The late eminent physician and writer, Dr. J. G. Holland, published in "*Scribner's Monthly*," and showed his opinion of such bigotry, and no doubt was satisfied that Atlantis might possibly be discovered in a proprietary medicine, when he wrote editorially as follows:

"Nevertheless, it is a fact that many of the best proprietary medicines of the day are more successful than many



THE IMPROVED LEFFEL WATER-WHEEL.

of the physicians, and most of them, it should be remembered, were first discovered or were used in actual medical practice. When, however, any shrewd person, knowing their virtue, and foreseeing their popularity, secures and advertises them, then, in the opinion, of the bigoted, all virtue went out of them."

INVITED TO GO TO PARIS.

The following correspondence, relative to an international congress of millers to be held at Paris, France, August 20 to 22, will explain itself:

NATIONAL ASSOCIATION AND SYNDICATE OF THE MILLERS OF FRANCE.

PARIS, April 18, 1889.

To Mr. C. H. Seybt, President of the National Association of American Millers:

SIR AND DEAR BROTHER MILLER: At a meeting yesterday, the 17th of April, our Board set Tuesday the 20th, Wednesday the 21st and Thursday the 22nd of August for the holding of our annual meeting, and it was decided that on account of the Universal Exposition it should take the form of an International Congress of Millers. We therefore inform you of this resolution and request you to honor us with your official participation to said Congress, begging you to take the initiative of forming (getting up) to that effect, a delegation of the American millers. The National Association of English and Irish millers have already pledged their full and entire co-operation. We should therefore be happy to see your country also represented at this brotherly feast of labor. Believing also that your colleagues, upon your advice, will unite in your favorable proposition, and that through your kind services we shall be able to behold for the first time representatives of our dear industry from the principal countries of the world assembled together at a solemn occasion, that can have no other result but that of tightening our bonds of concord and union to the benefit and prosperity of our respective countries. As our organization has to procure special meeting halls for each of the represented nations, we should be infinitely obliged to you to let us know as early as possible the welcome that you and your colleagues may reserve to our friendly invitation. In the meantime please accept, dear sir and brother, the expression of our sentiments of cordial and most sincere brotherhood.

FOR THE NATIONAL ASSOCIATION

SYNDICATE OF THE MILLERS OF FRANCE,
A. DUBRAY, President.

HIGHLAND, ILLINOIS, April 30, 1889.

Monsieur A. Dubray, President, Paris:

SIR AND DEAR BROTHER:—Your very kind letter of April 18th, sending an invitation to the Millers' National Association of America to participate in an International Congress of millers, to be held on the 20th, 21st and 22nd days of August this year at Paris in connection with the Universal Exposition, has been received. I have requested the secretary of our Association to publish a translation of your esteemed letter in the milling journals of the United States, and in this way the many thousand millers of our country will in the course of a few days have the pleasure to read your kind communication. At the next meeting of the executive committee of our Association official action will be taken in response to your letter, of which you will be notified at the earliest possible moment. Meanwhile, permit me to express the thanks of the milling fraternity of this country for the honor bestowed upon us by our esteemed confreres in France, a country which has in so many ways shown a generous love for our nation. Please accept, dear sir and brother, the expression of my highest regard.

Signed,

C. H. SEYBT, President,
MILLERS' NATIONAL ASSOCIATION, U. S. A.

HOW CANADIAN MILLERS ARE OPPRESSED.

Canadian millers have a real grievance. Their industry is being crushed by American competition, and the Dominion government has refused to give them the assistance by protective duties which all other Canadian interests enjoy. The Toronto "Mail" of May 7 gives the following interesting summation of the situation, politically and financially: Mr. Alex. Brown, of the Citizen's Milling Company, in answer to the inquiries of a reporter respecting the present crisis in the milling industry, gave a most comprehensive statement of the causes which had led to it, and the disabilities under which the millers are laboring. He said that the Millers' Association has petitioned Parliament for a higher tariff to protect them, but personally he would have been satisfied to

have the matter equalized by taking the duty off wheat, but of course he yielded to the wishes of the majority and to the circumstances of the case. The Government considered that they were committed to a certain line of policy, upon which they could not go back, and it was therefore fruitless to ask for any reduction. The association has presented its petition at Ottawa, and no member of either side of politics has denied the justice of their claims. Sir John A. Macdonald, in reply to their formal petition, acknowledged that their petition was perfectly justifiable and unassailable, and he recognized the difficulties which beset them, but he simply stated that the Government was not strong enough to grant their request. He explained to his own satisfaction, if not to the millers', that a large number of the Conservative members from the Maritime Provinces would vote against the Government if such a proposal were made in the House. The members from British Columbia would probably follow the same course, and he could not therefore grant their petition. This was practically, in the estimation of the petitioners, an acknowledgment by the leader of the Government that it was not strong enough to do what was admitted to be right. This was due principally to the strength of the Maritime members in the Dominion Cabinet.

The position of the millers was just this. They had to buy their wheat at a price equal to that paid in the United States, plus a duty of 15 cents per bushel. The Government standard for the purpose of grinding in bond allowed 4½ bushels of wheat for the production of a barrel of flour. It was only fair to accept their own standard in reckoning the duty paid on the raw material necessary to manufacture it, and also to the additional amount which they had to pay for that purpose. At 15 cents per bushel and 4½ to a barrel, the duty is 7½ cents per barrel, while the duty upon a barrel of flour manufactured in the United States and imported was only 50 cents. This of itself meant practically a bonus of 21½ cents per barrel to American millers, and also offered a premium to Canadian millers to remove their business across the line. In bringing in the manufactured article the American miller paid duty on the flour alone, and he could sell his offal to better advantage in the United States, where he had to pay no duty. On the other hand, the Canadian miller had to pay duty, or an equivalent thereto, upon his offal, which when imported was not worth as much money; in fact some Canadian millers had been forced to sell their offal in the American market. They also had to pay additional freight upon the weight of offal, which amounted to about one-third of the entire cost of freight. In addition to this there was the fact that Canadian trunk lines were offering special advantages to American millers with a view of obtaining their freight traffic. For instance, No. 2 spring wheat to-day is quoted at \$1.05. The price put down to-day in Liverpool is \$1.07. The price for export could not therefore be more than 91 cents, and hence Canadian millers are paying on this side very much more for wheat than it is valued at in the world's market. There was not, to his knowledge, a single miller in Ontario who had paid interest on his capital, much less made a profit during last year.

Many of the millers were in considerable difficulties, and he himself had been offered a mill in first-class condition, fitted with all the latest improvements employed in the business, at 25 cents on the dollar upon a valuation. It was, of course, true that with better crops and a surplus of wheat for export these difficulties would be greatly modified; but when one or two bad years came and pretty nearly bankrupted the entire trade, it became painfully evident that the present system was very mischievous and unjust in its operation. Sir John Macdonald's proposal to leave the matter in the hands of Providence was just about as logical as would be a proposal to leave the entire Government and fiscal policy of the country in the same hands. It seemed very strange that the three Maritime Provinces with a population of about five times that of the city of Toronto should possess power to control the entire legislation of the Dominion of Canada. It was well known that they had threatened, should the Government decide to increase the duty upon bread-

stuffs, that they would attempt to secede from Confederation. The Province of Ontario paid last year in duty upon soft coal for the benefit of Nova Scotia alone \$687,961, or 21 per cent. of the duty. The duty paid for breadstuffs by the three Provinces of Nova Scotia, New Brunswick and Prince Edward combined last year was only \$5,146.50, or in other words, Ontario paid about 130 times as much money in duty on coal for the benefit of the Lower Provinces as they contributed together to the Exchequer for breadstuffs, and the duty last year upon breadstuffs amounted only to 14½ per cent. of that. The millers now ask for an increase of 50 cents per barrel of flour, which would total up to a trifle less than an equivalent for the 21 per cent. duty. They claim that matters should be leveled up and the advantages equalized. The duty last year paid in this province on lubricating oils was \$14,345, or nearly three times as much as the Maritime Provinces paid on breadstuffs. Ontario paid per individual last year in taxation something over \$5.21, against \$4.28 per head in the Lower Provinces. In other words, the people of Ontario paid 21½ per cent., at least, more of taxation than the favored inhabitants of Nova Scotia and the other two provinces.

There are in Ontario interested in the milling industry between \$12,000,000 and \$15,000,000, and over 2,000 mills were in operation in different parts of the province. It was impossible for them to continue running much longer at a loss, and he thought it was a much better policy to stand still and lose money rather than work hard and lose it. He did not think that all the mills would close down absolutely, but they would run little more than one-third or one-fourth of the time. The employes would consequently be reduced to live on one-third or one-fourth of their usual annual income, and in many cases large numbers of them would of necessity be discharged. The closing, or partial closing, of so many mills would entail the shutting up of at least \$6,000,000 or \$10,000,000 of capital in Ontario which per se was a matter of serious import. It would send the money which ought to be circulated here in a large degree to the United States. In proof of this statement he mentioned the fact that there were over 100,000 barrels, or 800 car-loads, of American flour in Canada to-day, and it required to manufacture this comparatively small portion of the bulk which came in what would amount to 500,000 bushels of wheat. Hence the Canadian farmer would eventually have to cease growing wheat as he would not be able to stand against his American competitor. This was a very serious thing in view of the fact that the American barley market was being gradually closed to Canadian farmers. Thus the temporary benefit the farmer derived from his measure of protection appeared certain in the end to become the most fruitful source of his ruin.

The millers had another great difficulty to contend against. They were obliged to pay duty for nearly every thing that they use in the process of manufacture. A great deal of the necessary machinery was not made in Canada, and when imported there was a duty of 25 per cent. upon it. The machine made in Canada also is sold at the price for which American millers could obtain it in the United States plus from 20 to 24 per cent. advance, making the price just within 2 per cent. of the selling price of the same American goods in this market with the duty. It was the same with the machine oils. There was a duty on cheap oils amounting to about 60 per cent., and upon dear oils, such as cylinder and best machinery oils, of 25 per cent. The duty on coal was 21 per cent., and of course the Canadian mines kept up the prices in the same way as the manufacturers of machinery, and a mill of \$10,000, which was quite a small one, would be compelled to pay a duty on machinery, or at least an additional sum on the actual cost on account of the tariff, of from \$2,400 to \$2,500, which the American miller escaped. Mr. Brown said that in his own mill last year they paid in duty on coal one tithe of the gross income, and yet, he remarked, they tell us that in Ontario we do not pay tithes. Belting was another considerable item on which there was a duty of 25 per cent., and the Canadian manufactured article was nearly as high. One

consequence of this protection was a tendency of Canadian manufactured belting, machinery and oils to depreciate in quality. The fact was the millers had to pay for the privilege of milling in Canada. The duty on a thousand barrels of flour ground in bond was only \$500. The statement of Sir John Macdonald that the millers had fixed the tariff themselves was quite true, but the condition of things had entirely changed since then. At that time, with a large surplus of wheat in the country, the matter of duty was not considered. The duty was of no use to the farmers, nor any protection to the miller. Export prices, or, in other words, Liverpool prices, ruled the markets.

Mr. M. McLaughlin, of the firm of McLaughlin & Moore, said: "The millers all over the country feel very sore when they consider the way they have been treated by the Government. During the past winter deputation after deputation waited on the Government. They were led to believe that something would be done to right the wrong. But now they see how little they have to expect from the Government, and feel sore accordingly. Talk about Commercial Union, why Commercial Union would throw the American markets open to us and place us on an equal footing with our competitors. But as the tariff is to-day the Americans can undersell us right at our own doors, and this is the way it is done. To-day American and Canadian mills make a high and a low grade of flour simultaneously. Now, the cost of manufacturing flour both here and in the United States is practically about the same. The American sells his high-grade flour to home customers and at a higher price than we get for the same grade here. Hence he can afford to ship his low grades to the Province of Quebec and the Maritime Provinces, where the great bulk of it is used, and undersell us. The tariff as it affects millers is in direct opposition to the National Policy, which was supposed to benefit the home manufacturer. Instead of that, the foreign miller is bonused practically at our expense. This is protecting with a vengeance, but the trouble is the American millers are the only ones benefited by it. On one occasion no less than fifty-three members of the House of Commons signed a petition to Sir John Macdonald, asking that the prayer of the millers be granted. But it is the old story. Nothing has been done. I suppose Sir John thinks Ontario and Manitoba can bear this burden as well as those they are now supporting. To-day there are between seventy and ninety thousand barrels of flour in Montreal, and all entered for Canadian consumption. Large stocks are also reported from Quebec. In Brockville, small as it is, no less than five cars of American flour were side-tracked there the other day, and all for home consumption."

SPECIAL NOTICES.

LIBERAL OFFER.

With a view of increasing our subscription list, we will send a copy of R. J. Abernathy's new book, "The True Short System" (Price \$2.00) and "The Milling World" for one year at the very low price of Two Dollars. Renewal will be treated same way. This offer will only continue for a limited time. Now is your chance. Send in your subscriptions at once.

Address,
THE MILLING WORLD, BUFFALO, N. Y.

BOLTING CLOTH.

Do not order your cloth until you have conferred with us. It will pay you, both in point of quality and price. We are prepared with special facilities for this work. Write us before you order.

CASE MANUFACTURING CO.,

Columbus, Ohio.

Office and Factory, 5th Street, north of Naughton.

TOLEDO MILL PICKS AND STONE TOOL MFG. CO.

Manufacturer

and Dresser of

MILL PICKS.

Made of the best double-refined English cast steel. All work guaranteed. For terms and warranty, address, GEO. W. HEARTLEY, No. 297 St. Clair Street, Toledo, Ohio. Send for Circular.

N. B.—All Mill Picks ground and ready for use (both old and new) before leaving the shop. No time and money lost grinding rough and newly dressed Picks. All come to hand ready for use.

ALSO MANUFACTURERS OF

Shafting, Pulleys, Hangers, Coupling, Machine and Jobbing, Etc., Etc.



TO FASTEN WOOD TO STONE.—For a cement for fastening wood to stone, melt together four pints of pitch and one pint of wax, and add four parts of pounded brick-dust or chalk. It must be warmed before using and applied thinly to the surfaces to be joined.

GENERAL NOTES.

IT is estimated by a Mint official that there are still in existence somewhere in the country, tied up in old stockings or in the hands of curiosity collectors, over 100,000,000, of the old fashioned copper cents, about 120,000,000 of copper-nickel cents, nearly 5,000,000,000 of the present issue of brown pennies and 25,000,000 of nickel three-cent pieces, and about 200,000,000 of the nickel five-cent pieces. The total value of these outstanding various coins is put in round numbers at \$62,950,000.

POINTS IN MILLING.

IT would seem that it ought to be unnecessary to advise mill-owners not to "stack up" money in unnecessary machinery, but the fact is that there are many mills in which money is thus tied up in useless shape. Any man who visits a number of mills will soon become convinced that, while many mills may lack some machines, many others show a surplus in one or more lines. Let any miller ask himself what he gains or expects to gain by having on hand a lot of machines which he does not use. It is a serious drawback to lack machinery, and it is quite as serious a loss to have too many machines. It is not always that the equipment of a mill is perfectly symmetrical, perfectly suited to its requirements, and perfectly calculated to do the most satisfactory work in the most economical manner.

THE word "system" threatens to be severely overworked in its application to milling. Nearly every flour-maker one meets nowadays has a "system," in his mind, at least, however much or little of it may be visible in his mill. Recently I went to visit a mill whose owner has more than once fired off his pen at the fraternity in broadsides of eloquent rhetoric and big statements concerning his "system" and its results. Naturally, I expected to see some effect of that "system" in that mill, and, naturally, I was disappointed. Notwithstanding the owner's impressive talk, his mill was a most ordinary concern, working in a manner a little below the average in slipshodness, and using the full average of good wheat to the barrel of average or common flour. Nowhere in or about the plant was there any unusual thing to be seen, and yet the owner has represented himself as doing unusual things all along the line of flour-making processes. I wonder how many other voluble writers on fads and systems, who slop over in print on every possible occasion and flood the fraternity with the fierce white light of pretended

experience and wisdom, would turn out to be as commonplace and unsystematic as this one.

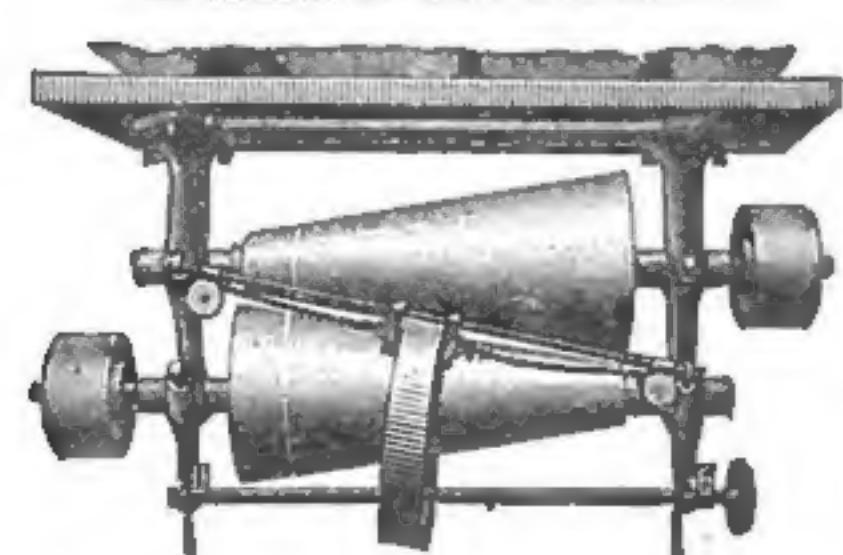
PROFESSOR KICK says: "We have already remarked that the tendency of modern millwrighting is to construct mills so as to reduce human labor to a minimum. And much can be done in this direction by means of cup elevators, grain and flour worms and spouts. The screen-house, or wheat cleaning department, may be completely automatic, with the exception of the necessary watchman. But so far as regards the mill proper there is much more to be done; for in high grinding, be the process but half carried out, the co-operation of hand labor for the grading of the products is necessary, and for this reason, that from the different wheat middlings varying in quantity and quality are obtained by the different breaks, and that for the grading and further distribution of those products the co-operation of human and intelligent labor is to a certain extent indispensable, unless good and inferior materials are to be mingled with the result of injuring the quality of the product. A complete automatic plant can be recommended only where the quality of the products is of less account than their quantity and cheapness. The same remark applies to mills in which rolls are exclusively used for the process of reduction. Such mills will require more power for the grinding of fine middlings (dunst) than plants in which millstones or dismembrators are also brought into use, and the bran will be less thoroughly cleaned. Where country customers do not object to branny flour, and where power is cheap, the miller may, from a commercial point, get along well enough with a pure roller plant; but if these conditions are not altogether fulfilled, as will happen in the great majority of cases, then such plants are to be rejected, however much they may be admired and praised."

CERTAIN brilliant writers, who have recently abolished crease-dirt in wheat, ought to go on and settle some other unsettled points. They might tackle the following list: 1. Do water-wheels run faster by night than by day? 2. How may gravitation be overcome? 3. What is the latest and most satisfactory method of squaring the circle? 4. Is the cyclone pulverizer a success? 5. Does the Keely motor mote? 6. What is the best method of harnessing Niagara? 7. What is the use of a Millers' National Association like the present organization bearing that name? 8. Can wheat be ground by the pneumatic process? 9. What is the value of an "official organ" to a millers' association, either in influence or in dollars and cents? With this list on hand the busy and ingenious perpetual-motion solvers ought to be both busy and happy during the insane heated spell which summer will soon bring. The settlement of all these questions may not be necessary to avert bloodshed, but certainly it would avert a distressing inkshed.

"HEMORRHAGE may take place from the kidneys or from the mucous membranes, particularly that of the nostrils." So writes T. Granger Stewart, M. D., F. R. S. E. Ordinary Surgeon to H. M., the Queen in Scotland, Professor of Practice of Physic in the University of Edinburgh, in an article on Bright's disease. Hence the only natural inference is that the kidneys must be restored to a healthy condition before its effects will disappear. Warner's Safe Cure is the most efficient agent for this purpose known to science.

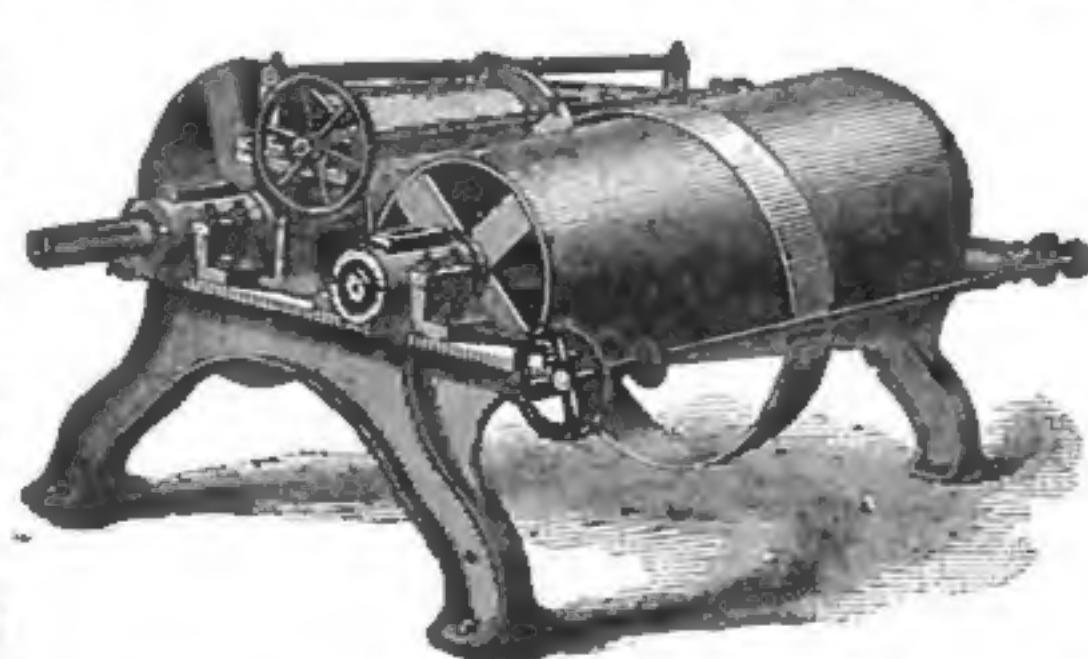
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This cut represents a set of hanging cone pulleys. This pattern is intended for that class of machinery that stops and starts at the same speed, and at the same time be able to change the speed more or less while running. These cones are also fitted with a governor where a steady motion is required and the initial power is

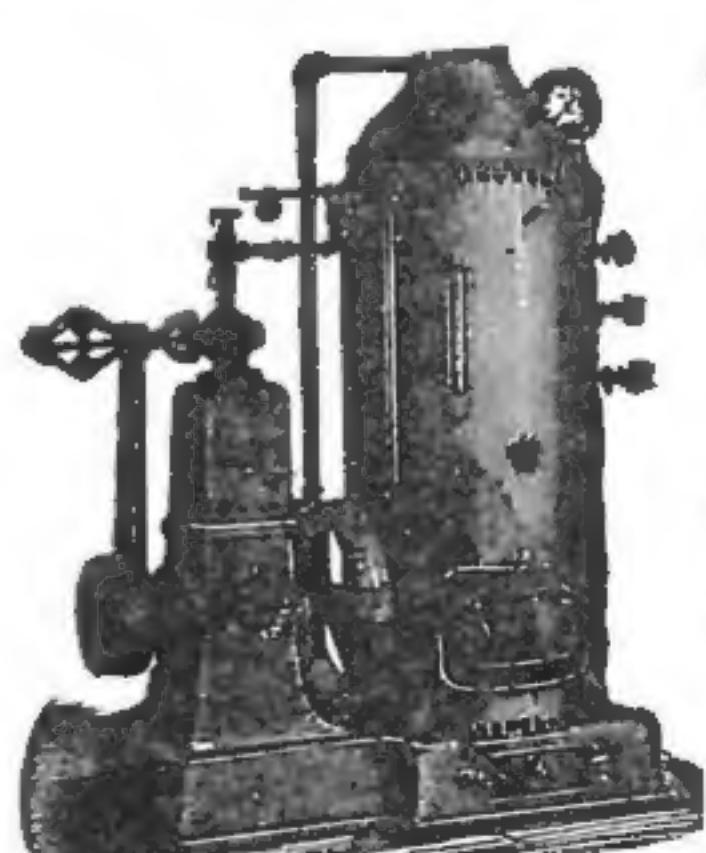
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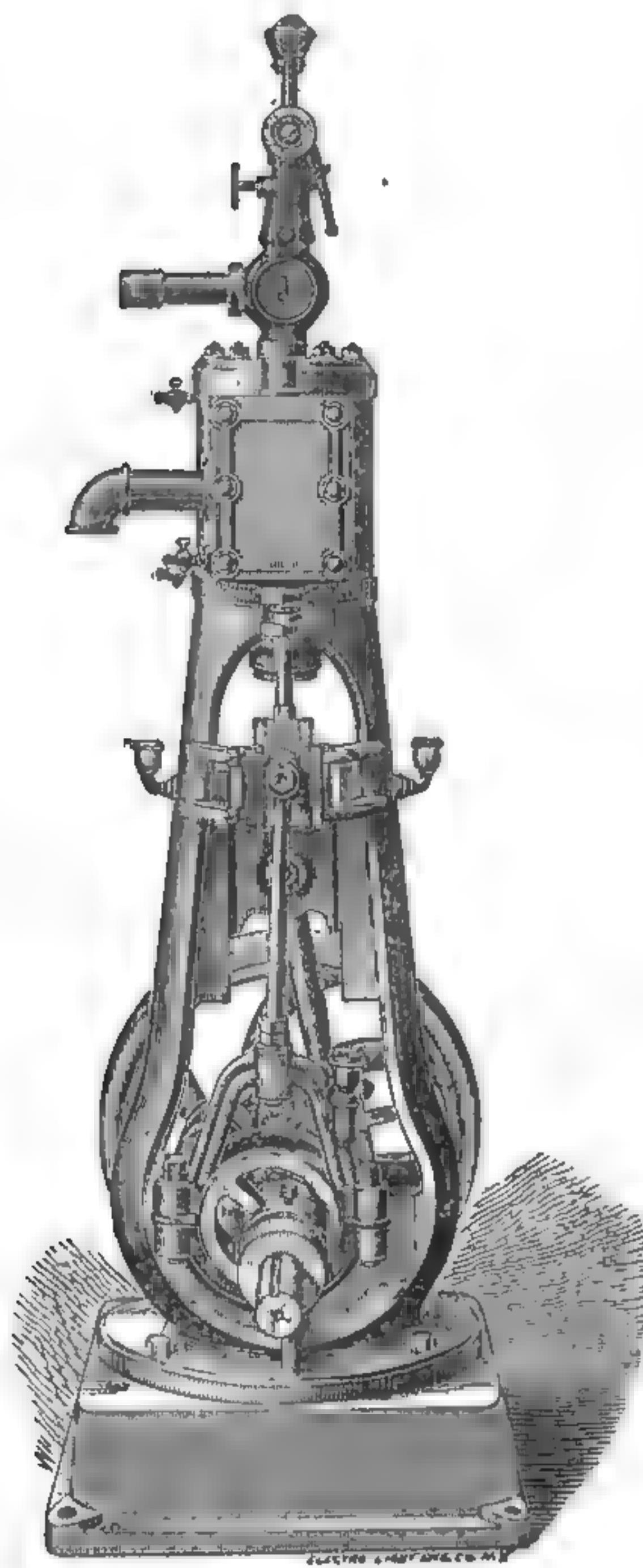
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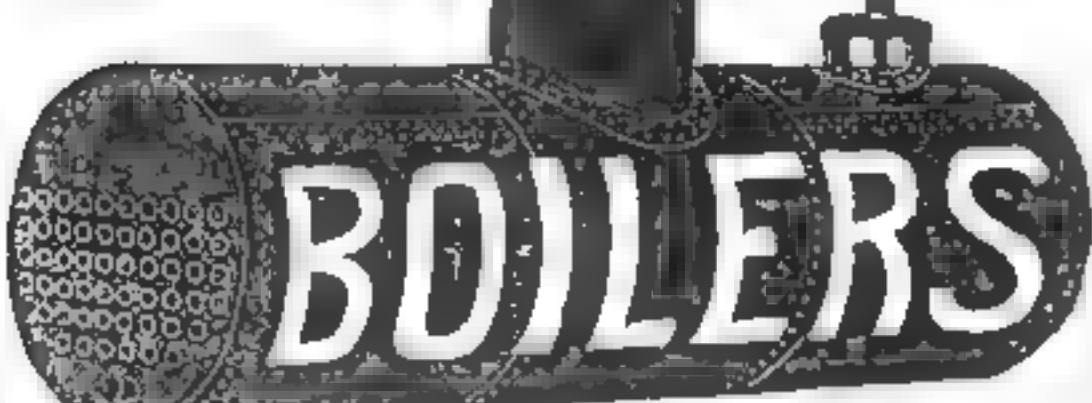
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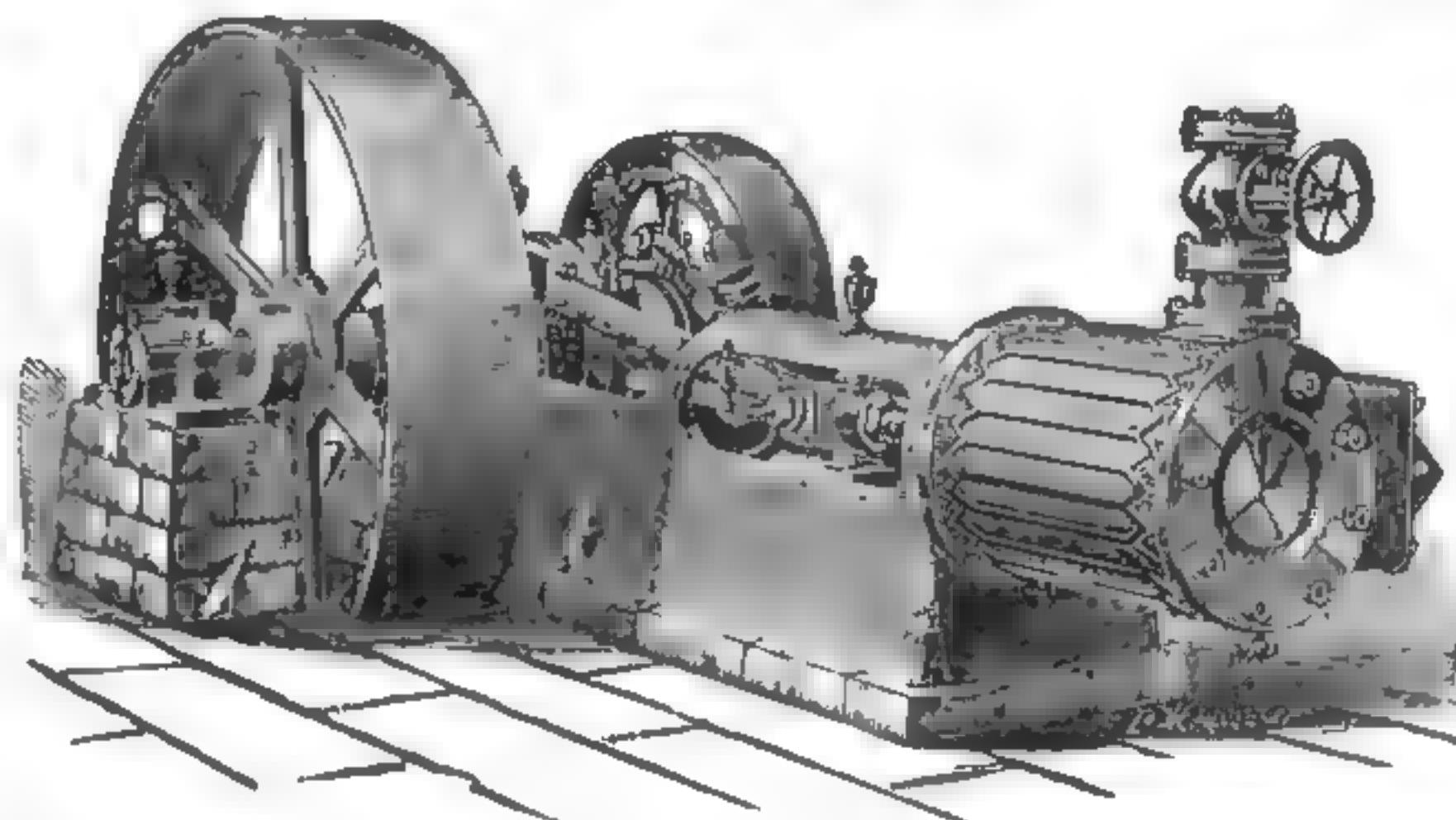
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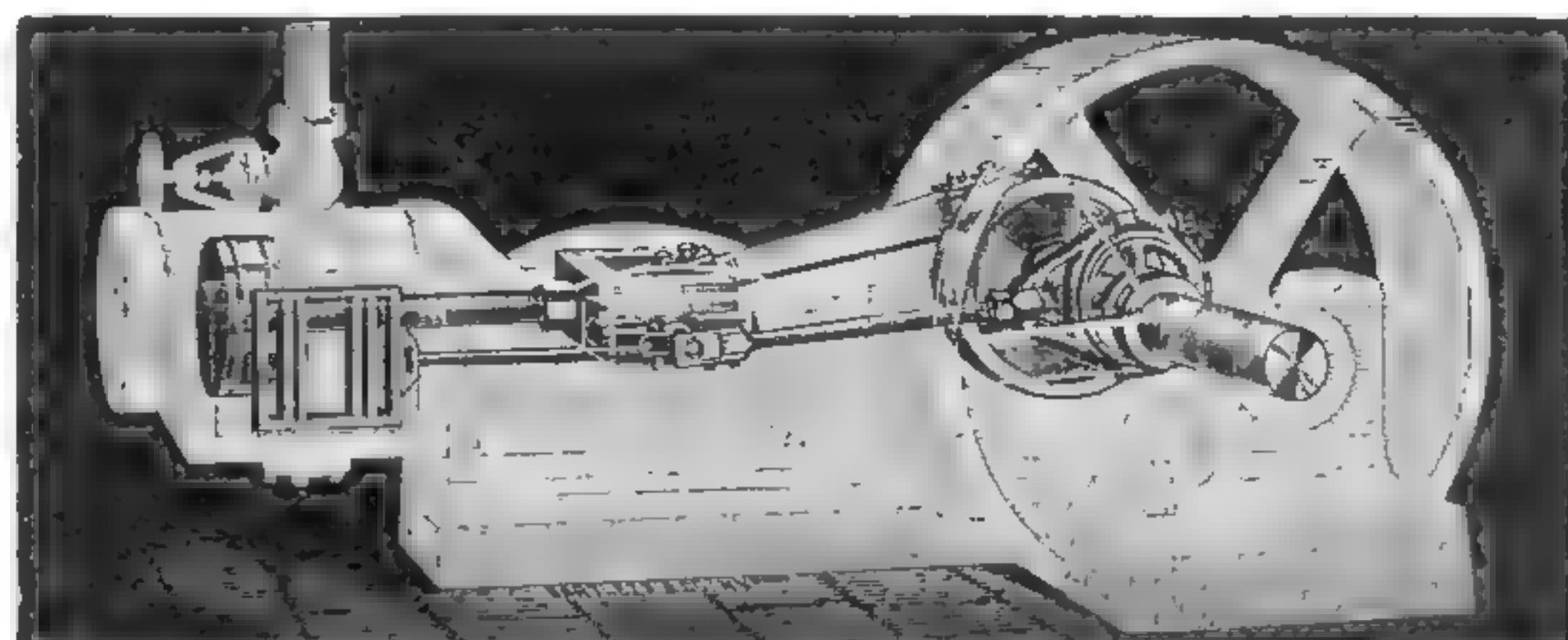
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NOTES & NEWS



J. L. Masters, miller, Albion, Mich., is dead.
 The Morgantown, Pa., Milling Co., dissolved.
 The St. Jo, Mo., elevator burned; loss \$20,000.
 Foulds & Co., millers, Cincinnati, O., now Foulds Bros.
 R. Lott, miller, Bridgeton, N. J., now R. Lott, jr., & Co.
 Mrs. E. A. Peters, De Kalb, Tex., rebuilds her exploded mill.
 The Farmers' Elevator, Northville, Dak., burned; loss \$5,000.
 The Shupe flouring-mill, Stonerville, Pa., burned; loss \$10,000.
 I. Thornton's grist and flour mill, Louina, Ala., burned: loss \$2,000.
 J. T. Lawrence, Cedar Bluff, Ala., wants a 36-inch corn-mill and a 20-horse-power engine and boiler.
 The Case Mfg. Co., Columbus, O., have an order from T. O. Russell, Pana, Ill., for 1 special purifier.
 The Case Mfg. Co., Columbus, O., have an order from E. E. Jones, Jefferson, O., for 2 pairs of rolls.
 Albert S. Osborn, Harrisburg, Ohio, is putting in round reels furnished by the Case Mfg. Co., Columbus, Ohio.
 The Case Mfg. Co., Columbus, O., have an order from Goold Bros. & Co., Howard, Dak., for 2 pairs of rolls.
 The Buena Vista Co., Buena Vista, Va., have points on projected new water-power flouring-mills at that place.
 The Case Mfg. Co., Columbus, O., have an order from L. B. Weisenburg, Frankfort, Ky., for 16 pairs of rolls.
 Esmueller & Barry, St. Louis, Mo., have placed an order for 3 pairs of rolls with the Case Mfg. Co., Columbus, O.
 Hutchinson & Clark, Carthage, N. Y., are putting in two pairs of rolls furnished by the Case Mfg. Co., Columbus, Ohio.
 J. E. Gardner, New Market, Tenn., is building a corn and feed-mill. He wants machinery for a combined buhr and roller flour mill.
 H. A. McLemore & Bro., flouring-mill, Columbia, Tenn., organized as a stock company; capital \$30,000; C. N. McLemore is president.
 The Case Mfg. Co., Columbus, O., have an order from W. C. & M. R. F. Newell, Bainbridge, Ohio, for 6 pair of rolls and other machinery.
 Brown & McCauley, Greenfield, Ohio, have placed an order with the Case Mfg. Co., Columbus, O., for 8 pairs of rolls and other machinery.
 Schomaker & Keffer, Greensburg, Pa., are putting in 2 pairs of rolls and other machinery furnished by the Case Mfg. Co., Columbus, Ohio.
 The Case Mfg. Co., Columbus, Ohio, have an order from The Washington Flour & Feed Co., Washington, D. C., for 4 additional pairs of rolls.
 Howe & Co., Cuyahoga Falls, O., are changing their mill and putting in 4 pairs of rolls and other machinery furnished by the Case Mfg. Co., Columbus, Ohio.
 C. Keely, Dyer, Tenn., has placed his order with the Case Mfg. Co., Columbus, Ohio, for rolls, round reels, purifiers and other machinery for a full roller mill on the Case system.
 A. F. Ordway & Son, Beaver Dam, Wis., have placed an order with the Case Mfg. Co., Columbus, O., for 4 pairs of rolls to be placed in the mill they are building at Marion, Wis.
 Peter Snyder, Manlius Station, N. Y., has placed his contract for all the necessary rolls and other machinery for a full roller mill in the hands of the Case Mfg. Co., Columbus, Ohio.
 The Case Mfg. Co., Columbus, O., have been awarded the contract of T. J. Elam, Murfreesboro, Tenn., for all the rolls, round reels, purifiers and other machinery for a full roller mill.
 The Case Mfg. Co., Columbus, O., have the contract of J. Q. A. Vale, Vales Mills, O., for the necessary rolls, round reels, purifier and other machinery and supplies for a full roller mill on the Case short system.
 Canadian millers have a real grievance, but the Dominion authorities will not redress it. Owing to the high price of wheat and the non-protecting duty on flour, Messrs. McKay & Co., millers at Ottawa, have sus-

pended operations. Under present prices and conditions they are at the mercy of the McDonald government and the American flour-exporters.

The value of the California fruit crop this year is estimated at \$24,000,000, of which fresh and dried fruits amount to \$6,500,000 each, and raisins and citrus fruits \$3,500,000 each. The wheat crop is estimated at 70,000,000 bushels, worth \$52,000,000; barley \$5,500,000; vegetables \$3,750,000; wool \$6,000,000; dairy products \$7,500,000; wine \$4,000,000. The total of all products, not including manufactures, amounts to \$185,000,000.

The Case Mfg. Co., Columbus, Ohio, have been awarded the contract of J. M. Gambill & Co., Roanoke, Va., for the necessary machinery and supplies for a roller flour and feed mill and elevator. The plant when complete will have a daily capacity of 100 barrels flour, 600 bushels of meal and 1,200 bushels of feed. The elevator is to have a capacity of 50,000 bushels. The plant when completed will be the finest and most complete in the state.

A dispatch from Lincoln, Neb., dated May 4, says; The Supreme Court has just decided a question of interest to money loaners. Growing corn had been mortgaged, and after coming to maturity it was harvested and sold to grain dealers. The owners of the mortgage sued them for the value of the corn. The Court decides that growing corn is not the corn after it has been cribbed and sold; in other words, that the mortgage will not hold, and the plaintiff can not recover.

The comprehensive and thorough investigation of the composition of American wheat, from all the great wheat growing states and territories of the country, made by the United States Department of Agriculture (Division of Chemistry), 1882 to 1885, placed Colorado wheat at the head of the list. "It is Colorado which leads our country in the production of a large grain, containing a large amount of albuminoids. This state shows what the possibilities are of raising a perfect wheat." [Bulletin No. 1, p. 36.] "Among the individual states Colorado sustains the reputation which was gained in last year's report of producing the finest wheat." "The Colorado wheats are certainly the best which have been produced in this country." [Report 1883, pp. 210, 211.] One million acres of free Government land adapted to wheat-raising are still subject to entry in the Colorado Rain Belt.

BOOKS AND PAMPHLETS.

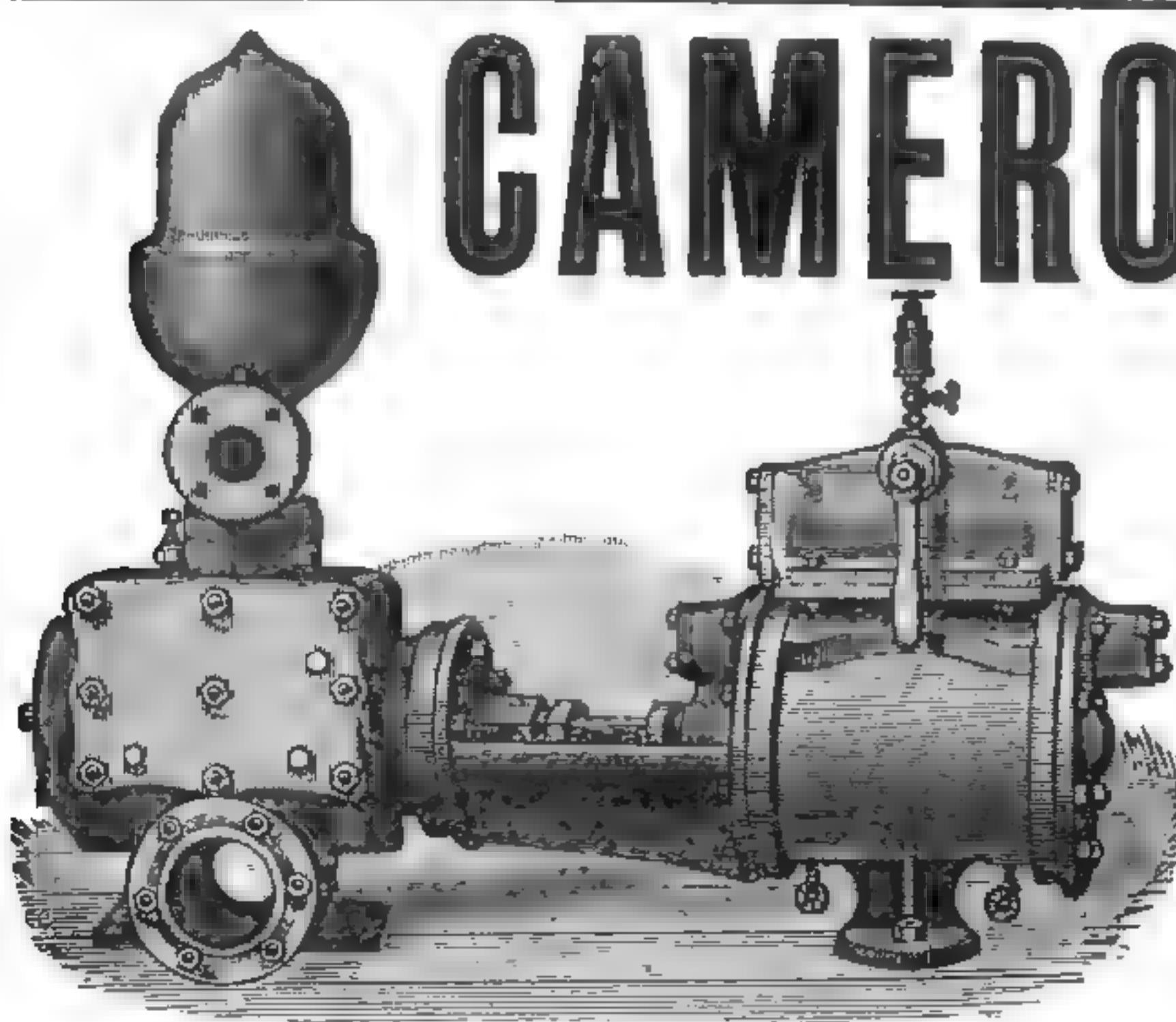
We have received a copy of Burnham Bros.' new illustrated and descriptive catalogue of Burnham's new improved standard turbine water-wheel. It is fully illustrated, and every user of turbines should have a copy. Address Burnham Bros., York, Pa.

The number of *Good Housekeeping* for May 11 is full of good things. There are poems, selected and original, sketches, articles on etiquette, food and sleep, little folks, cats and dogs, puzzles, anagrams, and a dozen other interesting things. The price is only 10 cents a number, or \$2.50 a year. Address Clark W. Bryan & Co., Springfield, Mass.

PERSONAL MENTION.

Mr. J. A. Lawrie, well known to the readers of *THE MILLING WORLD*, has recently accepted a position with the Holyoke, Mass., Machine Co. as traveling mill-wright. The position is a lucrative and responsible one, and Mr. Lawrie is just the man to fill it successfully.

Many of the recognized authorities in civil as well as military circles say, "The malarial disease is most dangerous in that the kidneys are most liable to break down." Such men as Dacosta, Atkinson and Pepper, professors in our leading medical schools, and Soldatow, Surgeon-General in the Russian army, Woodward, Surgeon-General in our American army, speak of malaria as a direct complication of chronic Bright's disease. The kidneys must be kept free from disease and the poisonous germs of malaria; they must act normally in cleansing the blood, for 65 gallons of it pass through them every hour. People in malarial localities recover from both the cause and effect of malaria by using Warner's Safe Cure. Every person in the spring or fall, who has either kidney disease or malaria, should use Warner's Safe Cure as a precautionary measure.



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"NO OUTSIDE VALVE GEAR."**

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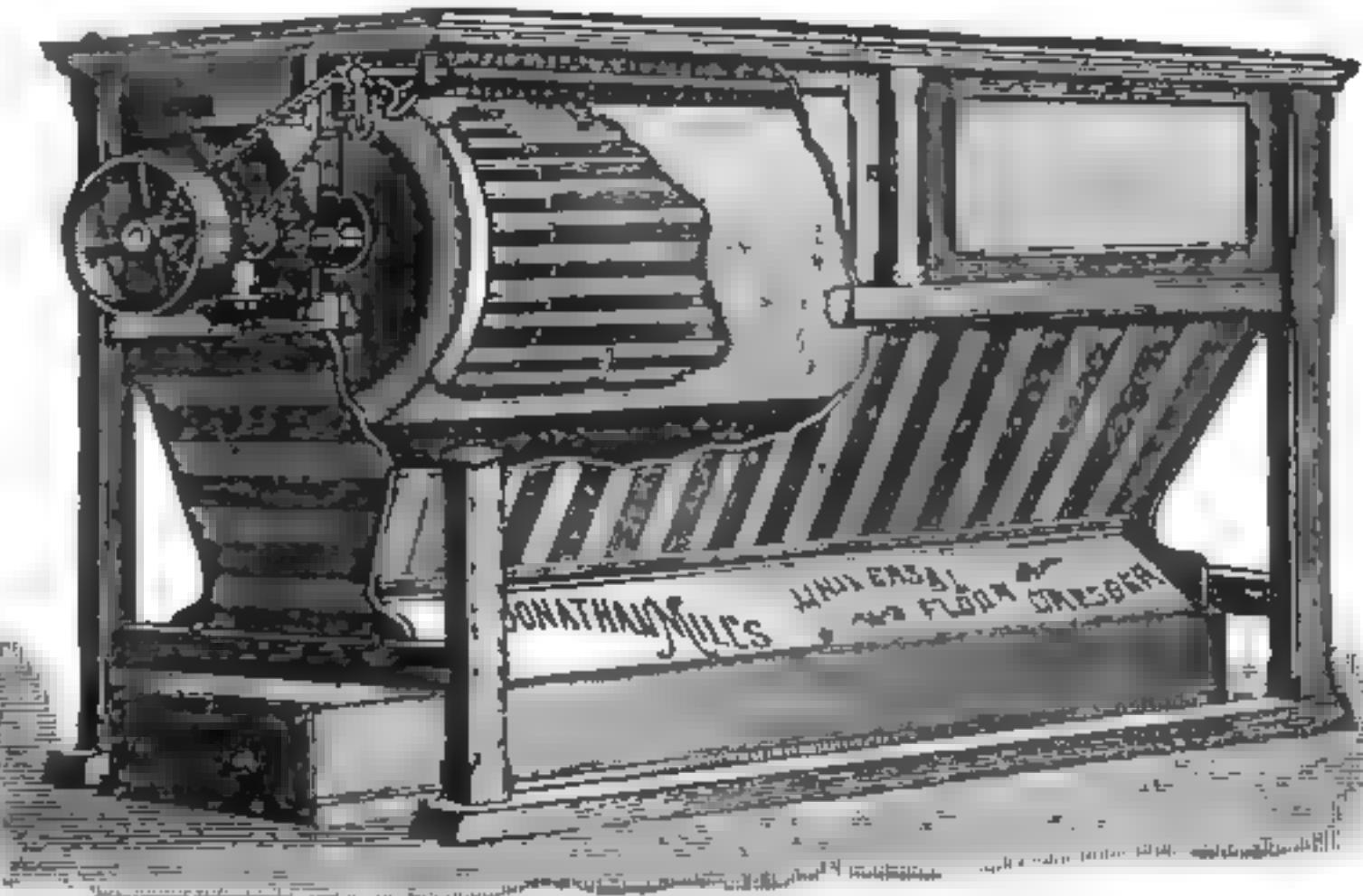
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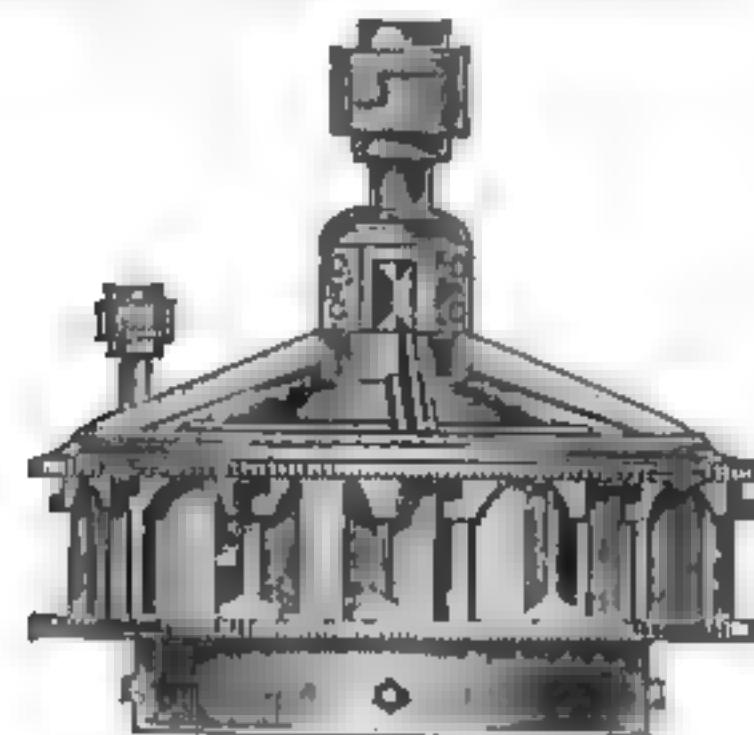
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PRICE FIFTY CENTS.

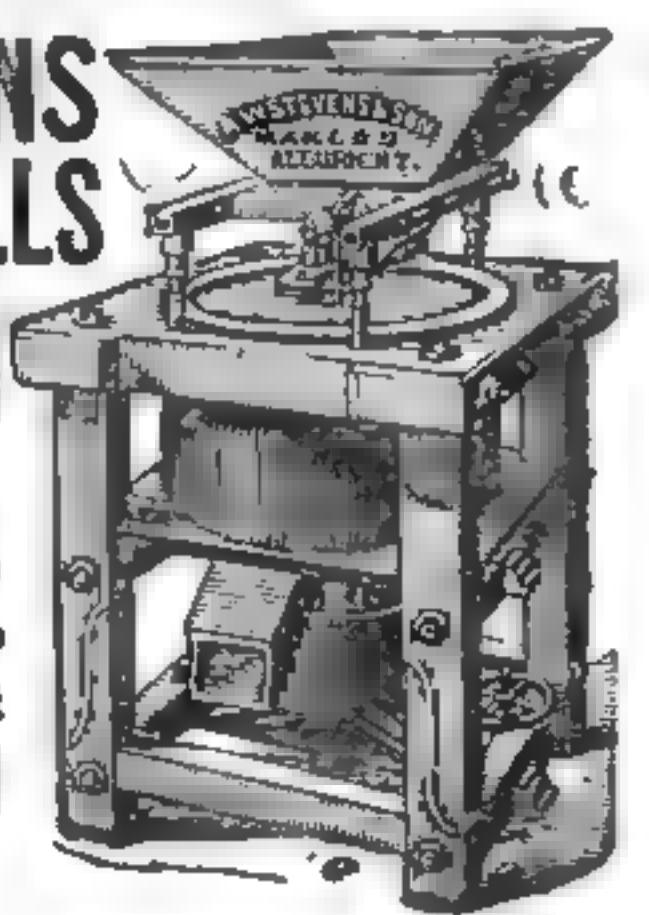
Or will be sent with a copy of "THE MILLING WORLD" for one year (postage prepaid) for \$1.25.

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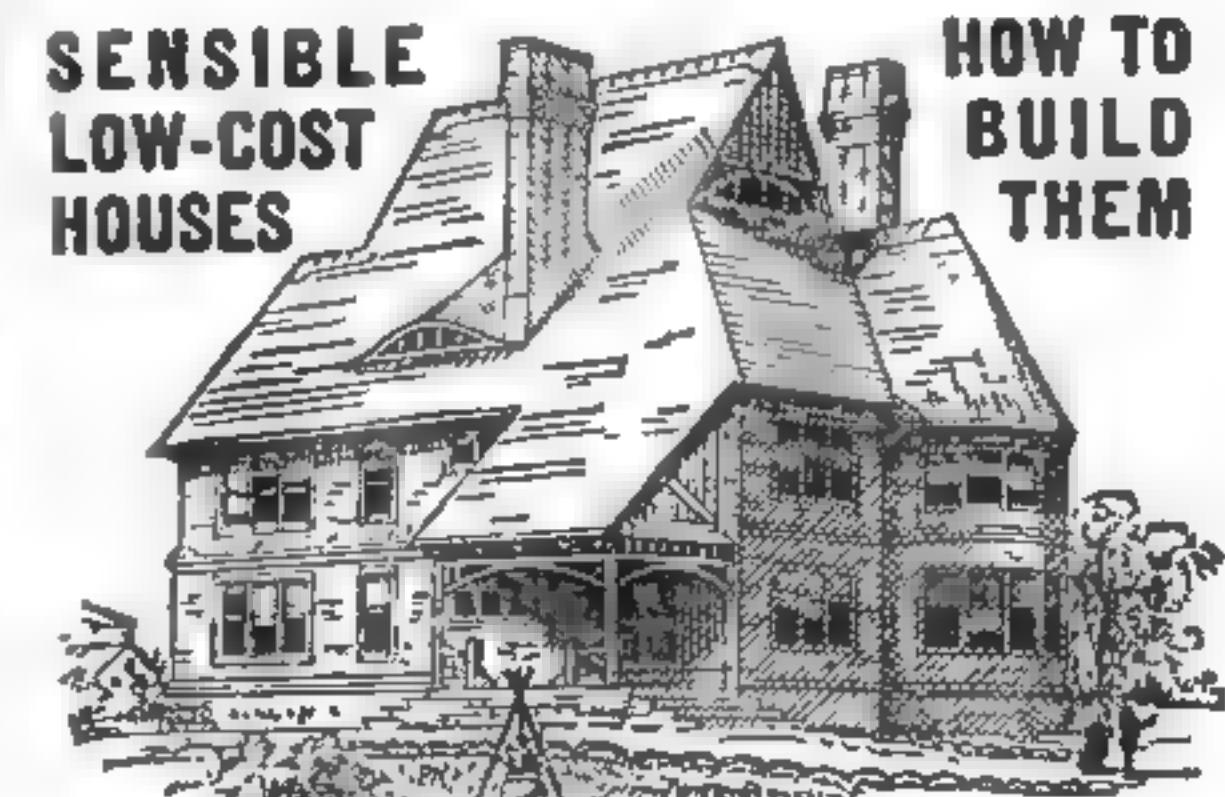
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EUROPEAN ECHOES.

IN Southern Russia the temperature steadily increases, and frequent showers are favorable to the Azima and spring grain crops. In the Azov district fine weather can not restore the plants damaged by early winter frosts, and serious complaints have been confirmed respecting the winter-wheat crop.

R. HUNTER CRAIG & Co.'s Liverpool Foreign Flour Report for April 12 reports American patents selling at the following prices per barrel: Michigan and Ohio \$5.56; Minneapolis \$6.15; Milwaukee \$5.46; St. Louis \$5.72; Californian \$5.21, and Canadian \$5.39. There was a good demand for St. Louis; moderate demand for Milwaukee and Ohio; fair demand for Californian and slow demand for others. German first and second quality were selling at \$5.04 and \$4.51, with slow demand. There was only a moderate demand for Hungarian flours. Nos. 0, 1, 2, 3 and 4 were selling at \$5.80, \$5.64, \$5.46, \$5.25 and \$5.13.

AN English report says: The government memorandum promulgated recently confirms reports already to hand and corroborates the remarks in a late review as to the prospects of the wheat crop. To express the position shortly, the districts which supply Calcutta and Karachi will be quite up to the ordinary standard, and in Punjab a bumper crop is expected, while the central provinces, which send their produce to Bombay, will show a decided deficit. It is said that the hopeful view of the out-turn taken by the government is not shared by the commercial community.

SAYS the London "Miller" of April 22: In that broken market-water that comes with the Easter holidays opinion sometimes takes a fresh direction. Ordinary business is interrupted in the present case on two principal market days, Good Friday and Easter Monday, while in the cargo trade many importers and their representatives take holiday Wednesday till Wednesday. The pause is enough to allow reflection, but which way reflection may lead is felt to be quite uncertain. When prices are stiff, and at Easter many of our merchants visit the country, they find the fields green and full of promise, so come back eager to sell or slow to buy wheat, accordingly as they are sellers or buyers. But the Easter of 1889 finds wheat already down in value beyond the dreams of buyers, and without good reasons for the excessive decline. It is therefore thought possible, nay more, it is rather expected, that after Easter business and prices may improve, the results of reflection during the holidays. Probably the markets will find that Easter has slipped by without leaving any special trace on the exchanges. The season is backward and crop prospects can hardly be much changed between the 18th and 24th of April. Before the holidays wheat cargoes had pulled back about 6d. per quarter of their latest reduction, and there was no glut of supplies in sight, or anticipation to bear down the markets. Thus there was a little turn in favor of future wheat prices before Good Friday. Perhaps the chief topic of the past week's markets was the descent of value in American red wheat to a point that put it nearly on a level with other samples. If Russian and Indian wheat could be had at about 31s. 6d. to 34s., so too could red winter, for which 32s. was asked, and bids were invited at even less money. But such terms failed to attract English demand, and most American samples are still out of buyer's favor. Californian at 35s. 6d. rather improves in opinion, although purchases for shipment can scarcely bring in supplies for this cereal year. However, 36s. to 38s. for old white wheat next October may be regarded as good stock for the money it costs, comparing with Indian white at 35s., and possibly new crop English white. Splendid as may be the summer season, the harvests to be gathered can hardly be expected to make our present 30s. average for wheat go lower. Already terms have been fixed from various indirect causes, to a point that the natural situation does not warrant. Consequently there is not scope for much change, whatever may be the favorable weather

of harvest. Of late the season has somewhat halted in its earlier promises, and wheat and barley may be good or bad, as future weather may determine. This is especially the case in the United Kingdom, but in some other countries, as in Southern Russia, March weather has decided probabilities, and these are that the Azov districts will not be equal to their crops of 1887 or 1888. As a set-off, American crop prospects are decidedly superior to those of this date a year ago.

FLOURING MACHINERY COMPETITION.

Says an exchange: A notable opportunity will be afforded American manufacturers of flour-mill machinery to show their skill and enterprise in the competitive exhibition of flour-mill machinery to be opened at Santiago, Chili, in November next, under the auspices of the Chilian Society for the Promotion of Manufactures. A prize of \$4,000 is offered, to be awarded by a jury of experts, and the contest is open to the world. The Chilian Congress has made an appropriation in aid of the exhibition; and as a further inducement to competitors the Society which has charge of the enterprise offers to pay the freight on machines sent and all the costs of testing them, together with a second-class passage to Chili and return for the man sent to set up and work the machine. The prize offered and the other pecuniary considerations, while showing a spirit of commendable liberality, are by no means the most important features of the contest, regarded from the stand-point of the American manufacturer of flour-mill machinery. This country is the largest producer of wheat in the world and exports enormous quantities of both wheat and flour. In its milling facilities it has made extraordinary advances in the last fifteen or twenty years, taking some of its ideas from abroad, but applying to their practical utilization that wonderful fertility of invention which is perhaps the leading characteristic of the American people. It is clearly the proper thing that the Chilian prize in the competitive exhibition of flour-mill machinery should be taken by an American firm. There is not only the glory of the achievement to be considered and the corresponding humiliation of a defeat by a competitor of some other nationality, but there is also the advantage which a victory would afford in the matter of introducing this class of machinery, of American make, in the Chilian market. The extent of that market is by no means to be despised, for Chili is a wheat-exporting and a flour-manufacturing country. Her wheat exports to Europe in 1887 were over 4,000,000 bushels. The water-power available within her limits is said to be practically unlimited; but there are only about 750 flour-mills, three-fourths of which are stone mills with but one set of stones, while a very few large mills have sixteen sets. There are, it is said, only three roller mills in the whole country. There is manifestly an opening for the establishment of a large and profitable trade with Chili in flour-mill machinery of the improved description made by many American firms. This exhibition gives an occasion and opportunity for the introductory effort. American manufacturers can inform themselves further in regard to it by applying to the Chilian legation at Washington or the consulate of Chili at Boston.

"IT is a fact that many of the best proprietary medicines of the day," said the late Dr. J. G. Holland in Scribner's Magazine, "are more successful than many physicians, and most of them were first discovered or used in actual medical practice. When, however, any shrewd person, knowing their virtue and foreseeing their popularity, secures and advertises them, in the opinion of the bigoted, all virtue went out of them." Failure of eyesight, fickle appetite, headache, extreme wakefulness, frequent desire to urinate, especially at night, gradual failure of strength and dropsical swelling, these are symptoms of kidney disease. If you neglect the symptoms you will eventually have Bright's Disease. Warner's Safe Cure is the only specific which has ever been discovered for this disease. The late Dr. Dio Lewis, over his own signature said: "If I found myself the victim of a serious kidney trouble, I would use Warner's Safe Cure."

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Finest Lubricants for Milling Plants. A Challenge to the World.
WRITE US. "VALVE OLEINE"—675 Degrees Fire Test, Cylinder Oil. "RUSSIAN"—Engine and Machine Oil.
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"NIAGARA"—Belt Grease. "CHELSEA"—Scale Solvent, Best on Market. Agents Wanted.
FREE—SAMPLES, CATALOGUE, AND ALL INFORMATION.

An advertisement for Moore's Patent Barrel Heater. On the left, a side-view illustration shows the cylindrical heater unit with a decorative base and a tall, slender chimney pipe extending upwards. The text on the right reads: "MOORE'S PATENT BARREL HEATER. For all kinds of cooperage. Thousand in use in all parts of the U. S. Send for Circular." Below this, the text "JOLIET STOVE WORKS. JOLIET ILL." is displayed in large, bold, capital letters.

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MCFAUL & NOLAN, BUFFALO N. Y.

A black and white woodcut-style illustration of a city skyline. The skyline features a prominent church tower with a tall spire on the left, a bridge with arches in the center, and various buildings of different heights on the right. Overlaid on the image is the text 'THE BOSTON DOWNTOWN WOODCUT' in a stylized, blocky font. The word 'THE' is at the top left, 'BOSTON' is in the center, and 'DOWNTOWN WOODCUT' is at the bottom right. The letters have a rough, engraved texture.

The advertisement features a decorative border with the company name at the top. Below the border are four circular illustrations of industrial equipment. The first circle on the left shows a vertical boiler with a decorative scroll frame and the word 'BOILER FEEDER' at the bottom. The second circle in the middle left shows a 'RIVAL STEAM PUMP' with a circular frame. The third circle in the center shows a 'DUPLEX' pump with a vertical pump rod and a base. The fourth circle on the right shows a 'BRASS BOILER FEEDER' with a circular frame and a small figure standing next to it.

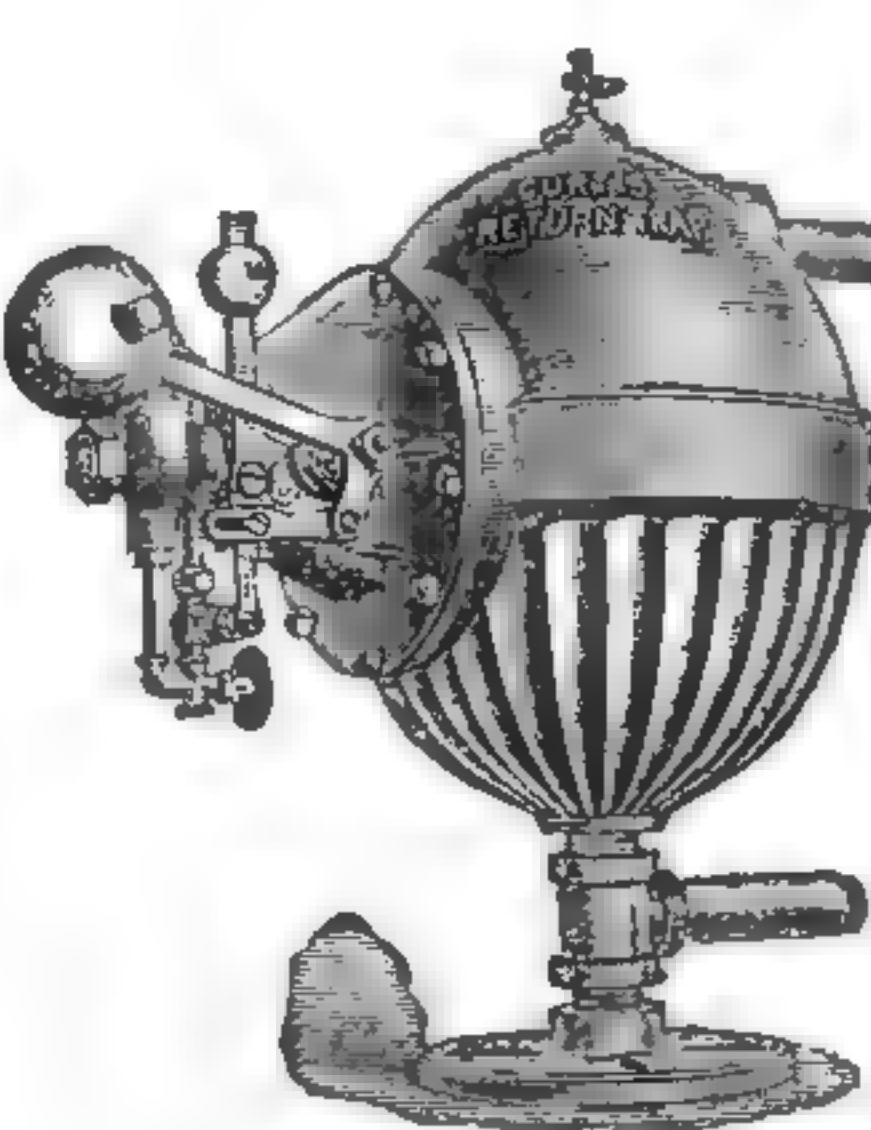
BURNHAM'S NEW IMPROVED STANDARD TURBINE WHEEL

PATENTED MAR. 22, 1883.

and MAY 1, 1888.

ADDRESS YORK PENN.

for PRICE 8c &c.



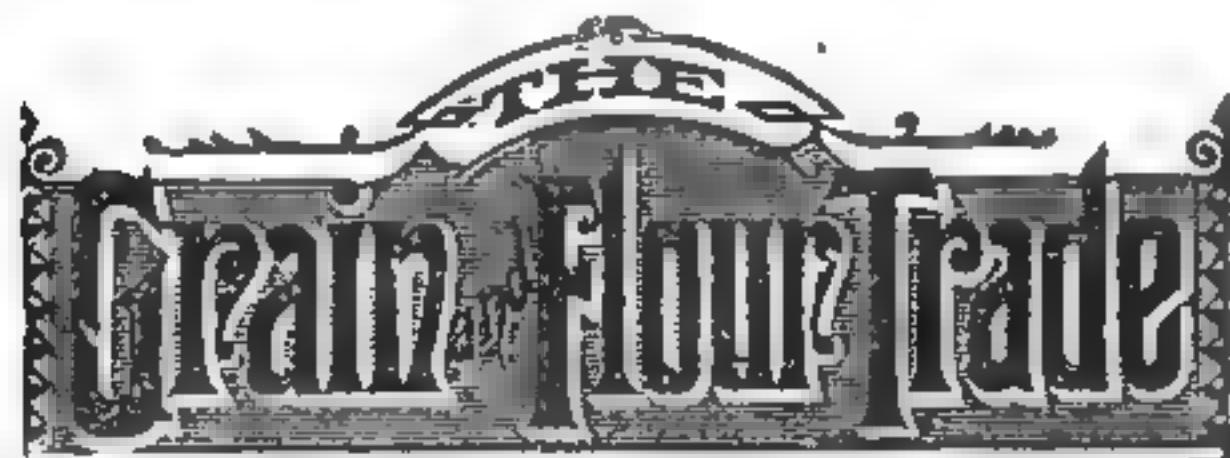
THE CURTIS

It is noiseless, positive, rapid, will return all condensation back into the boiler, and works equally well in connection with reduced pressure or exhaust steam, also when the return is below the water line of the boiler.

**THE CURTIS REGULATOR COMPANY,
NO. 74 BEVERLY ST., BOSTON, MASS.**

GENERAL AGENCIES.

NEW YORK, 109 Liberty st.	CHICAGO, 218 Lake st.
PHILADELPHIA, 2035 N. Front st.	ST. LOUIS, 511 WALNUT St.
MINNEAPOLIS, 210 S. Third st.	NEW ORLEANS, 21 Union St.



OFFICE OF THE MILLING WORLD,
BUFFALO, N. Y., May 11, 1889.

Rather unfavorable crop and weather reports from the west, with smaller offerings on spot and future stuff, made the markets slightly stronger on Friday of last week. May wheat opened at 82½c. and closed at 83c. Options 4,000,000 bushels. Exporters took a fair amount of grain. May corn closed at 42c. and oats at 28½c. Wheat flour was again duller, on account of a drop in exporters' limits with London. Trade was generally retail in character. The minor lines were featureless.

On Saturday the markets were irregular, opening firmer on dry-weather reports from the West, but closing easier on bearing. May wheat opened at 83c. and closed at 82½c. Options 1,360,000 bushels. Exporters bought some. May corn closed at 41½c. Wheat flour was dull and unchanged on all grades. Home trade was moderate. Export trade was dead. London cables announced a panicky condition in the London flour market, on account of the arrival of the first installment of 5,000,000 bushels of California wheat, most of which is nearly due. The minor lines were featureless.

On Monday the markets were duller and slightly stronger, on reports of drouth in the West. May wheat closed at 83½c. Options 2,000,000 bushels. May corn closed at 42½c. and oats at 29½c. The minor lines were quiet. Wheat flour ruled dull, steady and unchanged. Lower grades are becoming scarce and stronger. Sales were moderate. Exporters' limits were still too low for trade with Europe. The visible supply in the United States and Canada was as follows:

	1889.	1888.	1887.
	May 4.	May 5.	May 7.
Wheat	25,270,734	31,317,380	46,303,674
Corn	12,113,861	9,436,671	15,613,986
Oats	7,143,138	4,082,012	4,056,869
Rye	1,430,228	259,284	324,370
Barley	1,735,638	749,418	371,153

On Tuesday the markets were lower at the opening on general rains in the West, and stronger at closing on large export demand. May wheat ruled at 83c. Exporters took 23 loads, of which 8 loads went to Lisbon. In addition there were 8½ loads of choice red taken for Great Britain. Options only 1,00,000 bushels. May corn closed at 42½c. and oats at 29c. Wheat flour was in better demand generally. Low grades were so scarce that exporters could not find enough to fill orders. The minor lines were quiet and featureless.

On Wednesday receipts were lighter and the markets were stronger. May wheat opened at 83½c. and closed at 84½c. Options 3,000,000 bushels. Exporters took 10 loads and millers took 9 loads for the day. Of the amount ex-

ported 5 loads were for the United Kingdom. May corn closed at 42½c. and oats at 39½c. Rye grain was firm at 54@55c. for Jersey and Pennsylvania on track, 56@57c. for No. 1 elevator, 56@58c. for State afloat, and 50c. for spot Western. Barley was nominal at 65@73c. for Canada to arrive. Malt was in small demand at 95c. @ \$1.05 for the whole range of Canada, city and country, 87½@92½c. for 6-rowed, 85@90c. for 2-rowed, and 70@85c. for Western to arrive. Mill-feed was steady and in fair demand at the following quotations: 55@65c for 40 lbs. chiefly 60c; 60 lbs. 55c; 80 lbs. 60@65c; 100 lbs. 70@80c; sharps, 80@85c; rye, 75c; oil meal, \$1.27½@1.32c; cotton seed meal, \$1.25@1.35.

Wheat flour was less active, with holders evidently less anxious to sell at old prices, and buyers indisposed to anticipate wants. Exporters took considerable quantities. Following are the quotations:

SPRING FLOUR.

	Sacks.	Barrels.
No grade.....	\$1.60@1.80	\$....@...
Fine.....	2.00@2.20	2.25@2.50
Superfine.....	2.25@2.65	2.60@3.00
Extra No. 2.....	2.85@3.00	3.00@3.25
Extra No. 1.....	3.25@3.75	3.50@4.25
Clear.....	3.35@3.75	3.75@4.00
Straight.....	4.45@5.00	4.50@5.50
Patent.....	5.35@5.75	5.25@6.15

WINTER FLOUR.

	Sacks.	Barrels.
No grade.....	\$1.80@2.00	\$....@...
Fine.....	2.20@2.50	2.35@2.60
Superfine.....	2.40@3.00	2.90@3.15
Extra No. 2.....	3.10@3.50	3.35@3.60
Extra No. 1.....	3.50@4.25	4.00@5.10
Clear.....	3.75@4.20	4.05@4.35
Straight.....	4.50@4.75	4.65@5.10
Patent.....	4.75@5.00	5.00@5.65

CITY MILLS.

W. I. grades.....	\$4.35@4.55
Low grades.....	2.35@2.50
Patents.....	5.00@6.00

Rye flour was firmer at \$2.85@3.00. Corn products were generally dull. The quotations were as follows: Coarse meal, 82@86c; fine yellow, 95c; fine white, \$1.00; Brandywine and Sagamore, \$2.85; Western and Southern in lbs, \$2.70@2.80; do coarse and fine in sacks, 75c@ \$1.10; hominy, \$2.50@2.65; grits, \$2.35@2.65.

On Thursday the markets were not materially changed. May wheat closed at 84½c. Options 3,200,000 bushels. May corn closed at 43c. and oats at 29½c. Wheat flour was firmer. The minor lines were unchanged and featureless.

BUFFALO MARKETS.

WHEAT—There was little demand for spring wheat to-day. Reports of rain in wheat-growing sections have increased the prospects for a better crop. No. 1 hard advanced 1c, but no sales of this grade could be made here at \$1.05; 10,000 old No. 1 Northern sold at \$1.00; 8,700 do No. 1 hard at \$1.03½; Chicago May opened at 86½c. the highest being 86½c, lowest 85c, closing at 85½c, an advance of \$1½c from the opening price; winter wheat dull. There was not much doing in winter wheat to-day, the only sale reported was 8,000 bushels No. 1 white Oregon at 89c; No. 2 red closed at 92c. **CORN**—Quiet; No. 2 corn sold at 89½@90½c; No. 3 at 88@88½c; sales comprise 8,000 bu No. 2 at 89½c, 3 carloads No. 2 yellow at 80c, and 5,000 bu No. 3 88½c.

OATS—Firm. About 15 carloads No. 2 white were taken at 81½c on track; No. 3 white was quoted at 80½c; No. 2 mixed, 27½c in store; white State oats from farmers' wagons 84@85c. **BARLEY**—Quiet; No. 1 Canadian quoted at 71@72c; No. 2, 68@70c; No. 3 extra, 65c; No. 3 60@63c. **RYE**—Nominal at 52@53c for No. 2 Western. **CANAL FREIGHTS**—Firm. About 21 loads were taken this morning at the old rates—wheat 4c, corn 3½c and oats 2½c. Lumber rates \$2.25 to New York and \$1.75 to Albany. **FLOUR**—City ground—Patent spring, \$8.25@8.50; straight Duluth spring, \$5.75@6.00; bakers' spring, best, 5.50@5.75; do rye mixture, \$4.75@5.00; patent winter, \$6.25@6.50; straight winter, \$5.00@5.25; clear winter \$4.75@5.00; cracker, \$4.75@5.00; graham \$4.75@5.00; low grade, \$3.00@4.00; rye, \$8.25@8.50 per barrel. **OATMEAL**—Akron, \$6.00; Western, \$5.75 per barrel; rolled oats, in cases, 7½ lbs, \$3.25. **CORNMEAL**—Coarse, 80c; fine, 85c; granulated, \$1.50 per cwt. **MILLFEED**—Quoted as follows: Coarse spring bran, \$12.00@12.50; medium do do, \$11.75@12.25; coarse winter bran, \$12.50@13.00; medium do do \$14.50; coarse middlings, \$12.75; medium do, \$14.00; choice white middlings, \$12.50; fine do do, \$15.00; medium do do, \$14.50.

The Erie Canal traffic opened brisk on May 1, on which date 94 boats left Buffalo on their eastward trips. Of these 90 were grain-laden their cargoes footing up 815,840 bushels, of which five-sixths were corn. The rate to New York was 4 cents on wheat and 3½ cents on corn. A year ago only nineteen boats cleared from Buffalo the first day, of which fifteen were grain-laden, carrying 137,630 bushels. At that time rates opened at 4½ cents on wheat and 4 cents on corn, but quickly dropped to 3 cents on wheat, owing to the small amount of business offering. In 1887 the canals opened on May 7, and on the first day 265 boats cleared from Buffalo with 2,066,030 bushels. The year before 168 boats cleared on the opening day with 1,251,640 bushels. It will be seen that this season opened more briskly than that of 1888. The most important feature of the present season is the recently formed Forwarding Company, whose members control all the boats trading, here, and whose object is to avoid the ruinous competition heretofore existing among them.

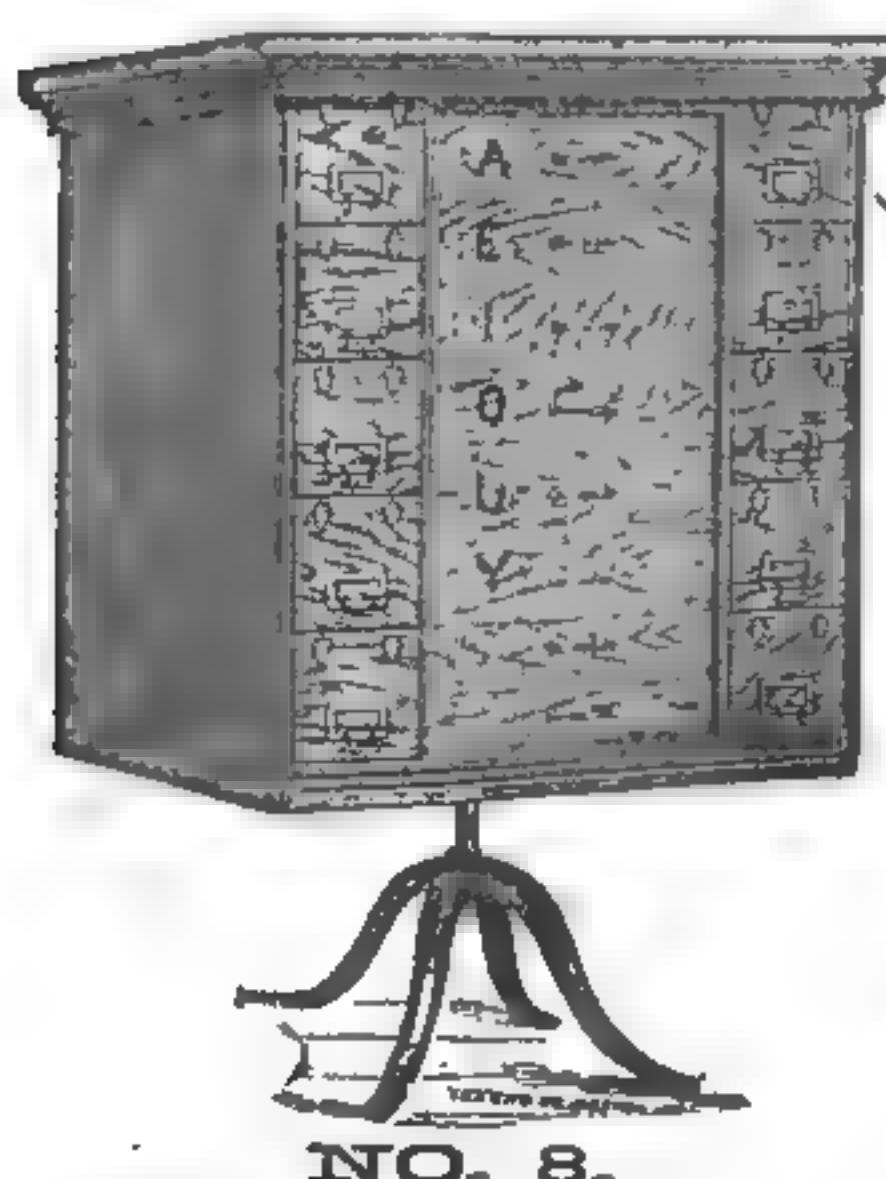
There is a cob-pipe factory located at Sedan, Mo., which is doing a rushing business. The factory pays at the rate of 1½ cents for 1½-inch cobs. A man hauled a load the other day of 1½-inch cobs which brought him \$64.

T. Granger Stuart, M. D., F. R. S. E., Ordinary Physician to H. M. the Queen in Scotland, Professor of Practice of Physic in the University of Edinburgh, writes: "Acute bronchitis is common especially in the advanced stages of Bright's disease, and tends to pass into the chronic state. Phthisis (consumption) in its various forms is found occasionally associated with these renal (kidney) affections. It usually proves fatal while the renal malady is yet in its early stage." It thus becomes evident that consumption and bronchitis are intimately associated with kidney disease and Warner's Safe Cure should be taken early in the disease to prevent the damaging influence the kidney malady exerts upon the respiratory organs.

The Canton Cabinet Filing Case Company, Canton, Ohio,

MANUFACTURERS OF

The New Buckeye Document Case & Letter File; Also All Kinds Office Furniture

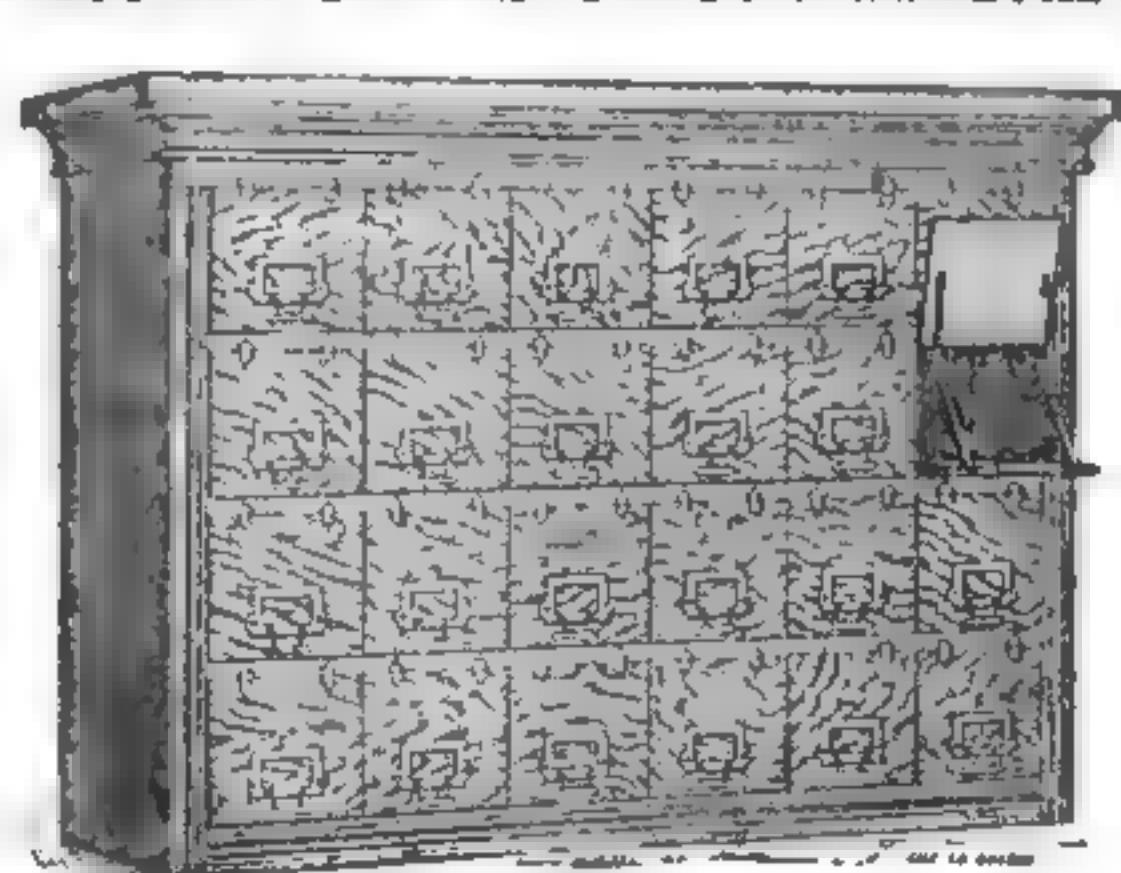


NO. 8 Represents one side of one of our Revolving Cabinet Letter Files and Document Cases Combined. It contains 80 Document Drawers and 8 Letter File Drawers. In filing letters we use first VOWEL of name on front of drawer, and LETTER FOLLOWING first VOWEL on Index Sheet within drawer. We also make more exhaustive systems which contain from 6 to 100 or more Filing Drawers.

NO. 1 Represents one of our small Document Cabinets, for use on desks or brackets. Action of drawer can be seen in the cut. When front is raised inner drawer comes forward, exposing contents of drawer for inspection.

Our Cabinet Files are Considered to be the Most Convenient of Any in the Market. They are Compact, Simple, Complete, Durable and Ornamental.

SEND FOR PRICE LIST AND CATALOGUE.



NO. 1.

INSURE IN THE TRADERS & TRAVELERS

Accident Company,
287 BROADWAY, NEW YORK.

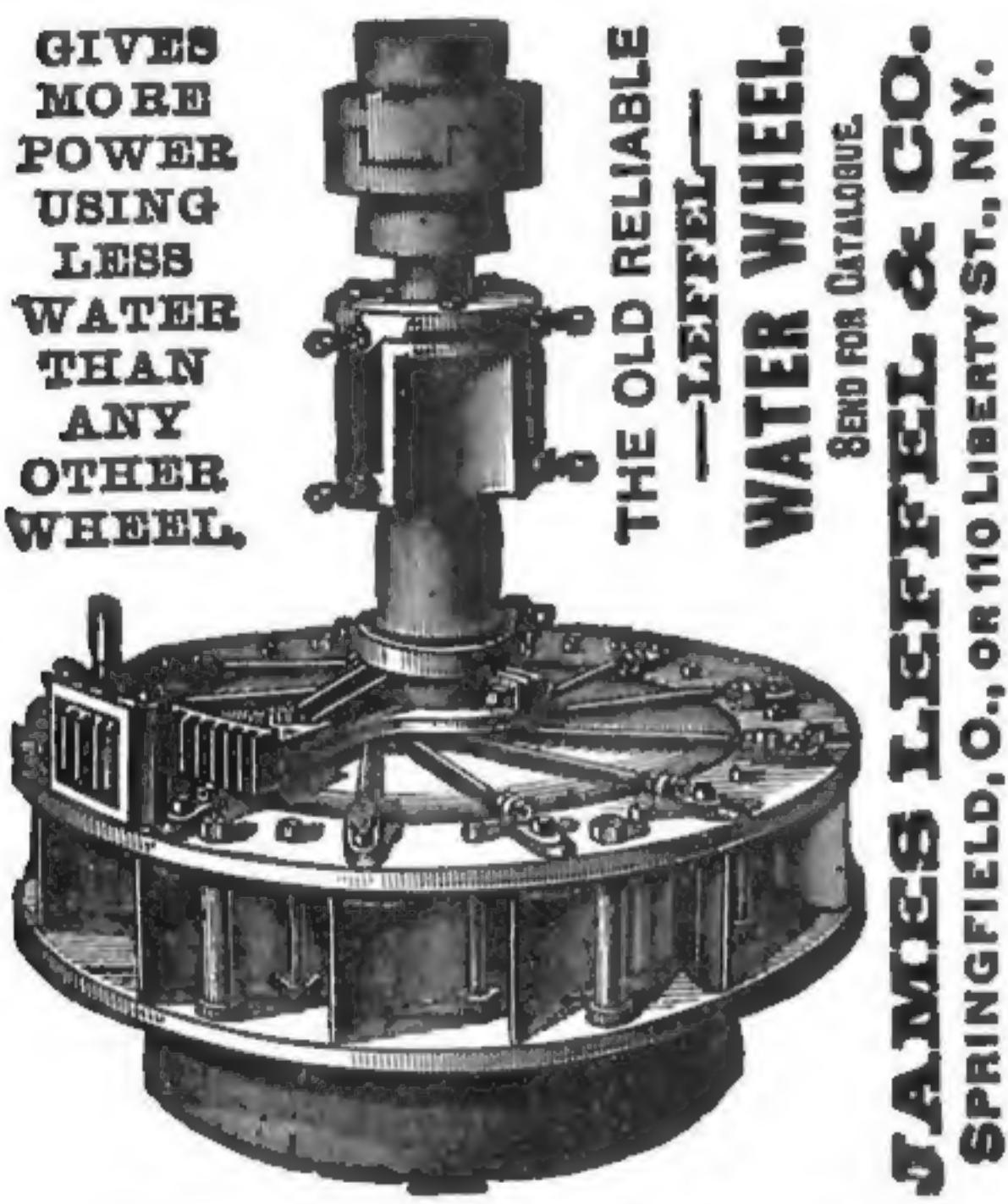
BENEFITS.

\$5,000 for Death.
\$5,000 Loss of Limbs.
\$2,500 Loss of Limb.
\$2,500 Loss of Sight.
\$1,250 Total Disability.
\$650 Loss of One Eye.
\$25 Weekly Indemnity for
26 Weeks.
One Set of Individual Registry Plates
Included.

COST.

Four Quarterly Payments, \$10.00
Annual Dues, - - - 1.00
Membership Fee, 5.00. \$11.00

IMPORTANT NOTICE.—The Traders & Travelers Accident Co. of New York desire the services of one responsible representative in each town to act as agent for the general transaction of their business. A liberal and permanent arrangement will be made with parties who can fill the above requirements. Address C. S. SOMERVILLE, Sec'y.



PREJUDICE Is a thief and robs you of many good things in this age of phenomenal progress. It pays to investigate. Send for Illustrated Price List of Reliance Safety Water Columns. They protect life and property, save repairs and enforce economy. Every Column Warranted.

Reliance Gauge Co. 831 Sheriff St., Cleveland, Ohio.

THE "HARLOW" Positive Feed Lubricators.

For Marine and Stationary Engines, Steam Pumps, Electrical and other Machinery.

MAXIMUM ECONOMY IN OIL.
MARKED ECONOMY IN FUEL.

Not dependent upon or operated by Steam Pressure, Condensation or Gravity. Not affected by changes of temperature.

BEING operated by some moving portion of the engine or machine to be lubricated, the "Harlow Lubricator" starts and stops with the engine or machine being lubricated, without requiring the slightest attention from the engineer or operator, always delivering the oil in any amount from a drop to a constant stream.

The cup can be filled at any moment while the engine or machine being lubricated is in operation, without causing any leakage either of oil or steam.

Harlow Lubricator Mfg. Co. BOSTON, Mass.
U. S. A.

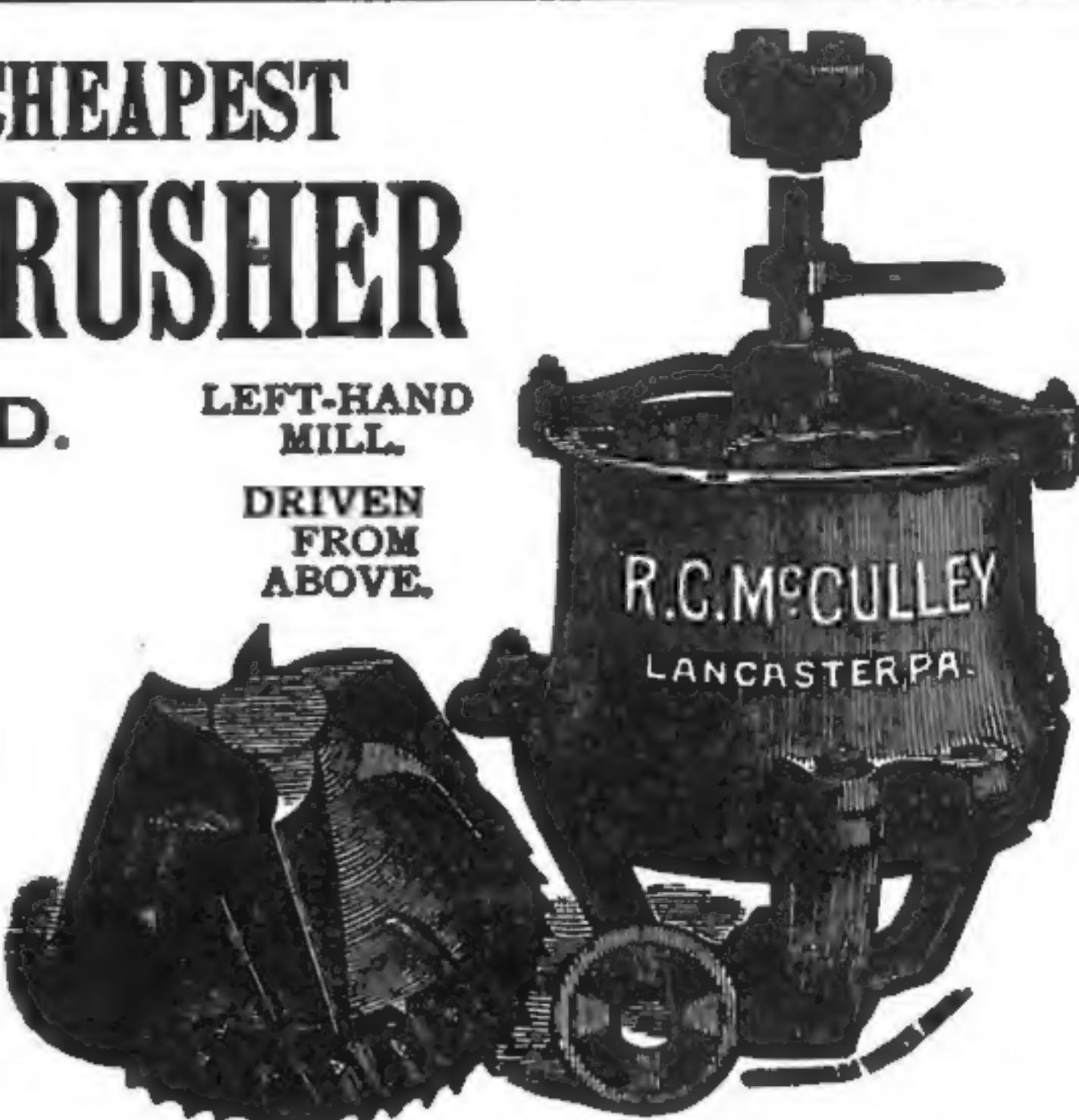
THE BEST AND CHEAPEST CORN AND COB CRUSHER IN THE WORLD.

LEFT-HAND
MILL.

DRIVEN
FROM
ABOVE.

R. C. McCULLLEY
LANCASTER, PA.

RIGHT-HAND RUNNER.



Please Send for Circulars.

R. C. McCULLLEY, LANCASTER, PENN.

\$15 Will Buy the Best and Cheapest
CORN AND COB CRUSHER

IN THE WORLD!

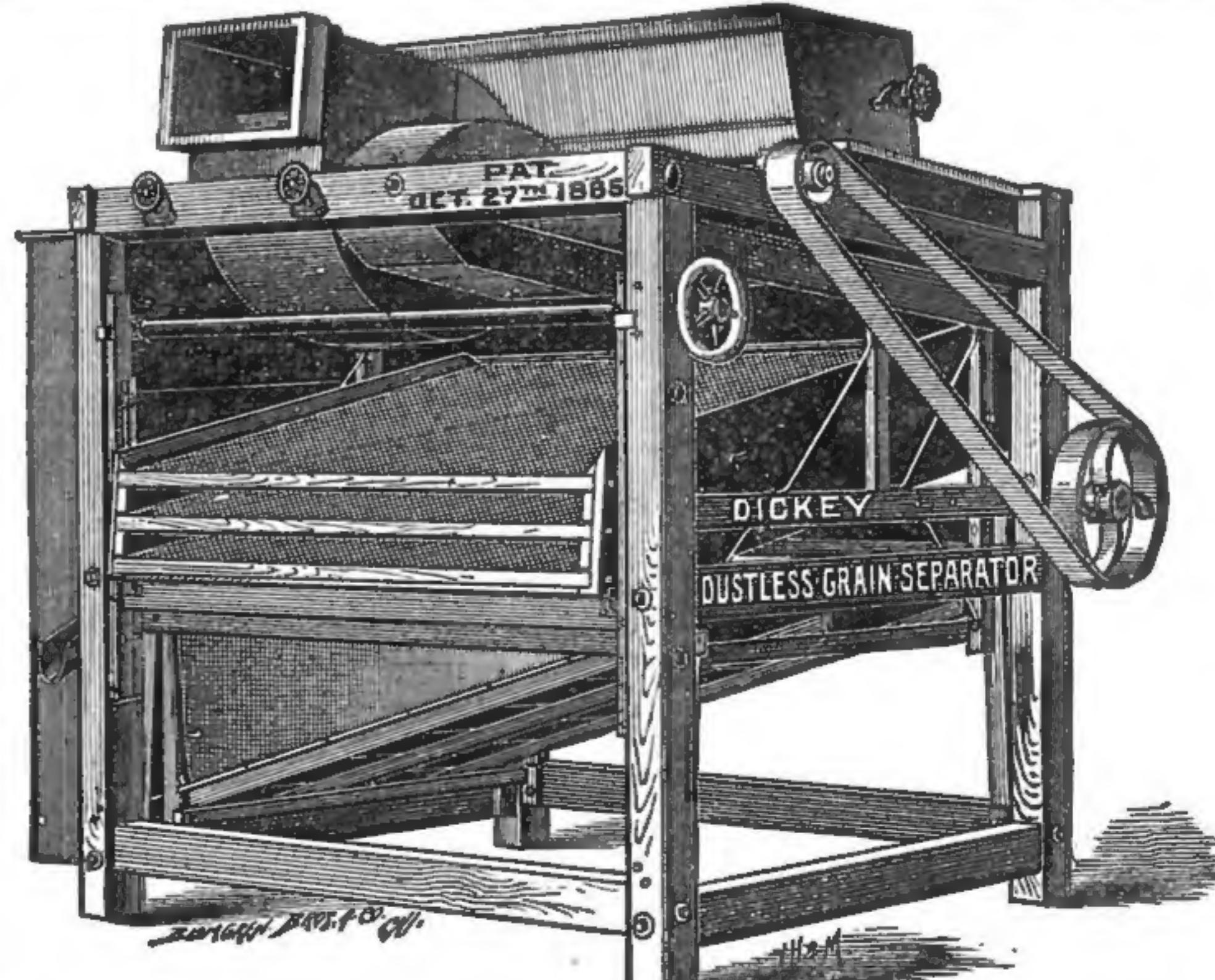


It can be driven either from above or below. Thousands of these Crushers are now in use throughout the United States and Canada, and are giving entire satisfaction. Send for circular, giving testimonials from millers who are using our Crusher, and know a good thing when they see it.

T. B. WOOD & SONS, CHAMBERSBURG, PA.

DICKEY DUSTLESS GRAIN AND FLAX SEPARATOR

This Separator is our latest and most perfect, and guaranteed to be the superior of any now on the market. This machine, as can be seen by the cut, is not a warehouse fanning mill with one patent attachment, but is a Dustless Separator, made for the express purpose of thoroughly cleaning and separating all kinds of grain in large quantities; its construction is such that the working machinery and weight is all within the parts or anchors.



WE CLAIM FOR IT SUPERIORITY.

WE CLAIM FOR IT SUPERIORITY.

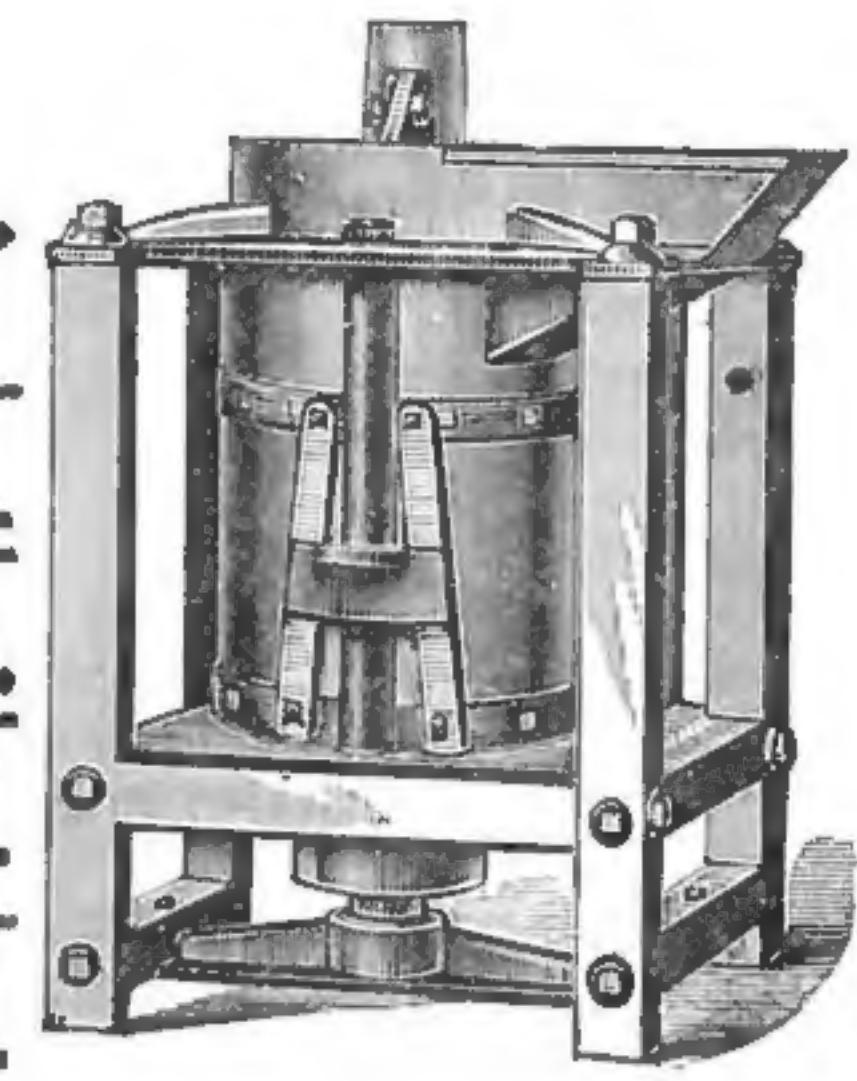
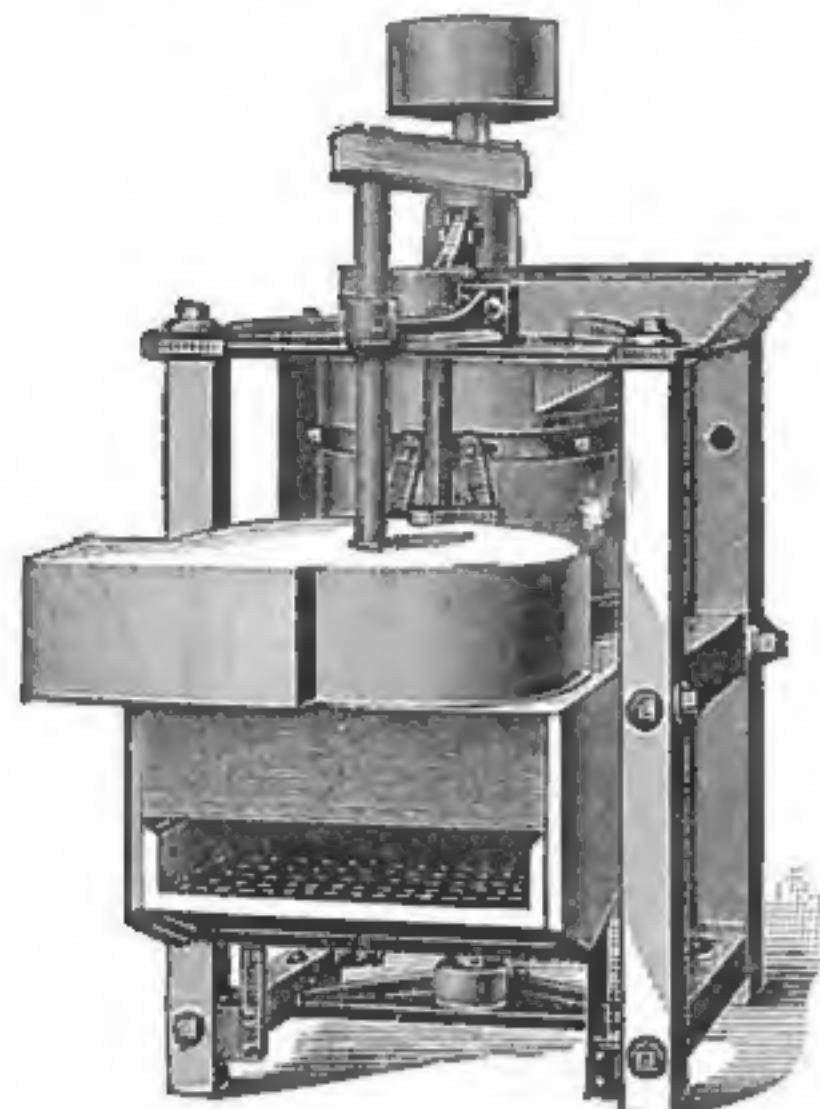
We claim for it Superiority over everything of the kind made, in simplicess, durability, saving of power, capacity and cost of construction. Its height will accommodate any number of spouts from different points, without moving machine. They have a capacity from 700 to 1,500 bushels per hour. We also control exclusively the manufacture of the celebrated Dickey Giant, End and Side Shake, Warehouse Mills, that have attained such a world-wide reputation. Sent on approval to any reliable party. For full particulars address,

A. P. Dickey Manufacturing Co. Successors to Dickey & Pease, **RACINE, WIS.**

The LIPPOLD DUSTLESS CORN SHELLER & CLEANER

MANUFACTURED BY

The LIPPOLD MFG. CO.
ERIE - - PENN.



THE HIGHEST CAPACITY for the LEAST MONEY.

The Best Machines for Mills and Elevators.

Machines Sent on Thirty Days' Trial.

SHELL UNHUSKED CORN AND CLEAN IT PERFECTLY.

WRITE FOR ILLUSTRATED CIRCULAR WITH PRICES.

NAME THIS PAPER.

*"DE MAN WOT KNOWS IT ALL
is allus a-makin' change, a-
buyin' ob experience."*

The man who does not think that
he "Knows it All" about

Pumps, Steam Engines and Boilers
Can find out a great deal about
them in

GRIMSHAW'S PUMP CATECHISM - \$1.00
STEAM ENGINE CATECHISM - - - 2.00
BOILER CATECHISM - - - - - 2.00
PREPARING FOR INDICATION - - 1.00

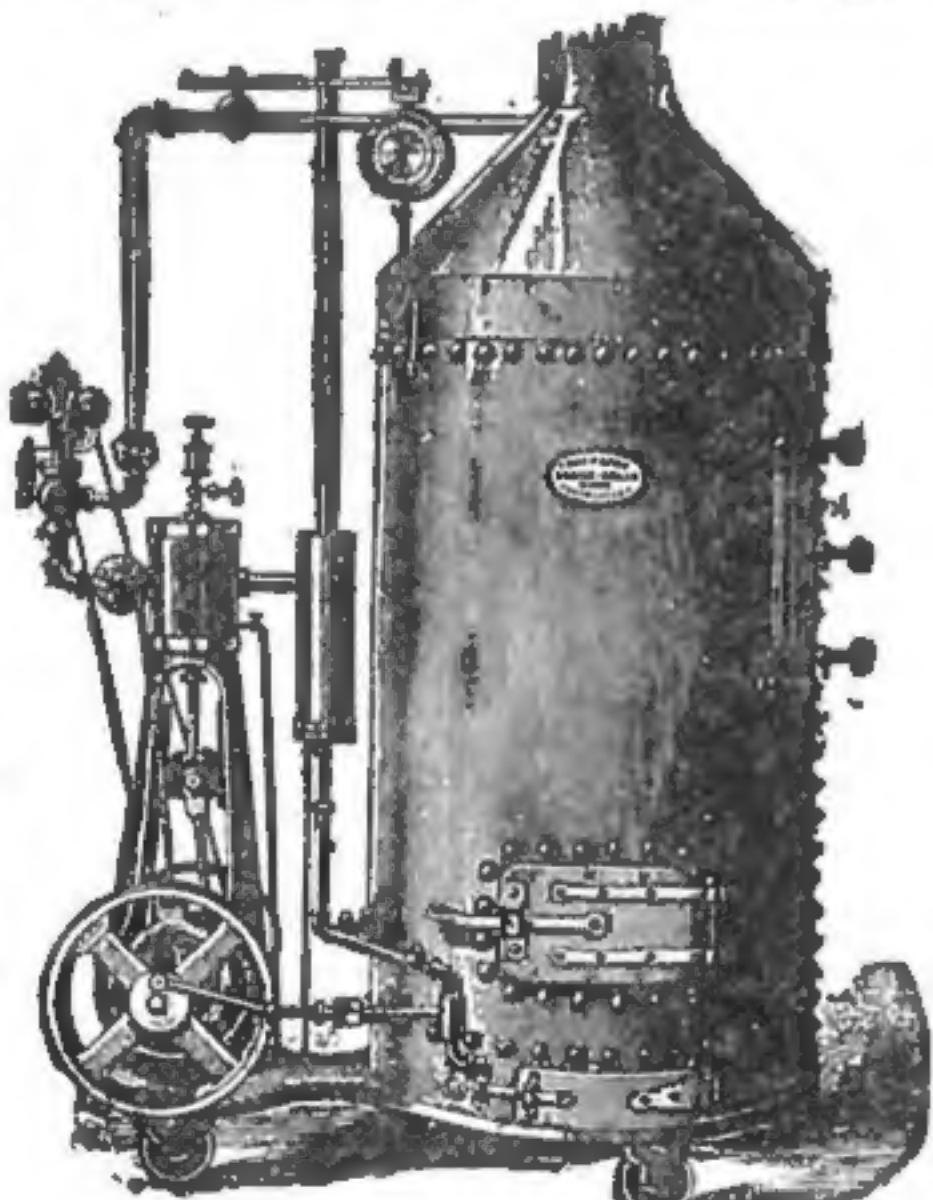
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McFaul & Nolan, - Buffalo, N. Y.

TONAWANDA
ENGINE AND BOILER WORKS

A Large Assortment of Machinery.

The Best 6-Horse Power Semi-Portable Up-
right Engine and Boiler Made.



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Tonawanda N. Y.

SPECIAL PRICE. GUARANTEED.

New Improved Patent Head Linings.



DESCRIPTION.

These Linings are curved edgewise and flatwise, besides having the edge beveled, so as to make them fit the head and chine PERFECTLY, without springing them edgewise when nailing.

If you use them once you will have NO OTHER. No need of pounding fingers, as the ends do not have to be held down while nailing. They are much more convenient to nail and look better than any other. They are first tied in bundles of two hundred, and, when dry, are put into bales, weighing about fifty pounds each, and tied with two strong wires, to make them handle better and to prevent loosing out in transit.

Write for prices and state about the number you use per year.

To convince you of their merit, and for the purpose of introducing them, I will ship a sample order of from five to ten thousand at a REDUCED RATE.

SEND US A TRIAL ORDER: SATISFACTION GUARANTEED. J. H. PETERS,
Owner of Patent and Manufacturer,
COLEMAN, MICH.

The
D & C
TO MACKINAC

SUMMER TOURS.
PALACE STEAMERS. LOW RATES.

Four Trips per Week Between
DETROIT, MACKINAC ISLAND
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Huron Way Ports.

Every Week Day Between
DETROIT AND CLEVELAND
Special Sunday Trips during June, July, August and Sept.

Double Daily Line Between
CHICAGO AND ST. JOSEPH, MICH.

OUR ILLUSTRATED PAMPHLETS

Rates and Excursion Tickets will be furnished
by your Ticket Agent, or address
E. B. WHITCOMB, G. P. A., DETROIT, MICH.,
Detroit and Cleveland Steam Nav. Co.

Chemical Fire Extinguisher Co.

38 & 40 LASALLE STREET.

CHICAGO, - - ILL.

MANUFACTURERS OF THE

Only Chemical Automatic Fire Extinguisher Made

No Freezing; No Corroding; No Leaking. Cheapness and Absolute Reliability and Reduction in Cost of Insurance. We also manufacture everything in the line of Chemical Extinguishers, from a full 100 gallon engine to a quart Hand Fire Extinguisher, of the best and most approved kind. One gallon of our chemical is equal to 500 gallons of water.

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THIS WHEEL GIVES HIGH RESULTS, AND
IS ACKNOWLEDGED THE BEST, MOST PRACTICAL AND EFFICIENT TURBINE MADE.
FOR SIMPLICITY, DURABILITY, AND
TIGHTNESS OF GATE, IT HAS NO EQUAL.

State requirements and send for Catalogue to
T. C. ALCOTT & SON,
OUNT HOLLY, N. J.

BOSS + ELEVATOR + BUCKETS.

If you are interested ask for Prices. Manufactured only by

W. P. MYER, INDIANAPOLIS, IND.

16, 18 AND 20 EAST SOUTH STREET.

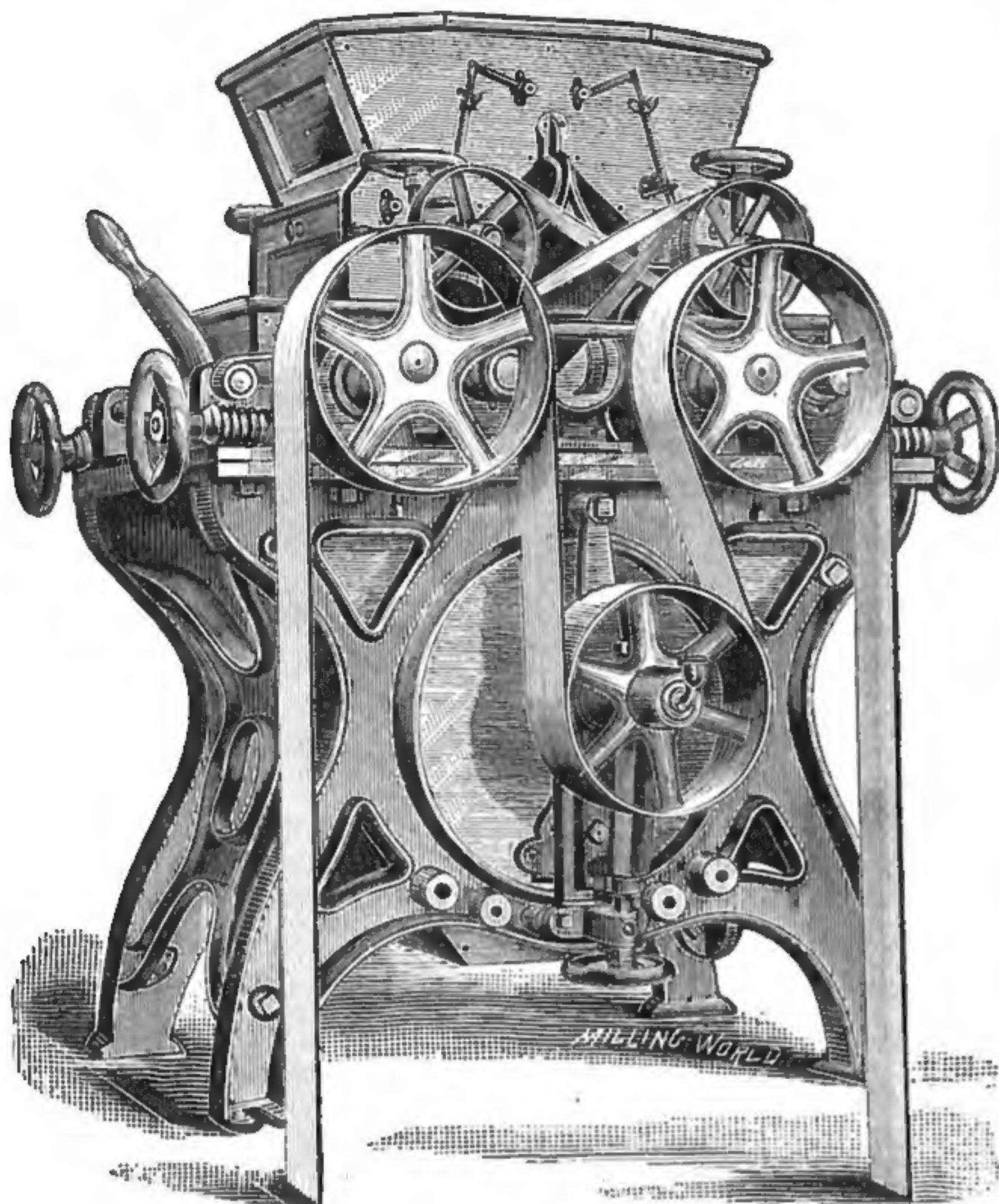


Made of sheet steel, with heavy band.



Made of tinned steel plate, with iron band.

JOHN HUTCHISON MFG. CO., Mill Builders and Mill Furnishers.



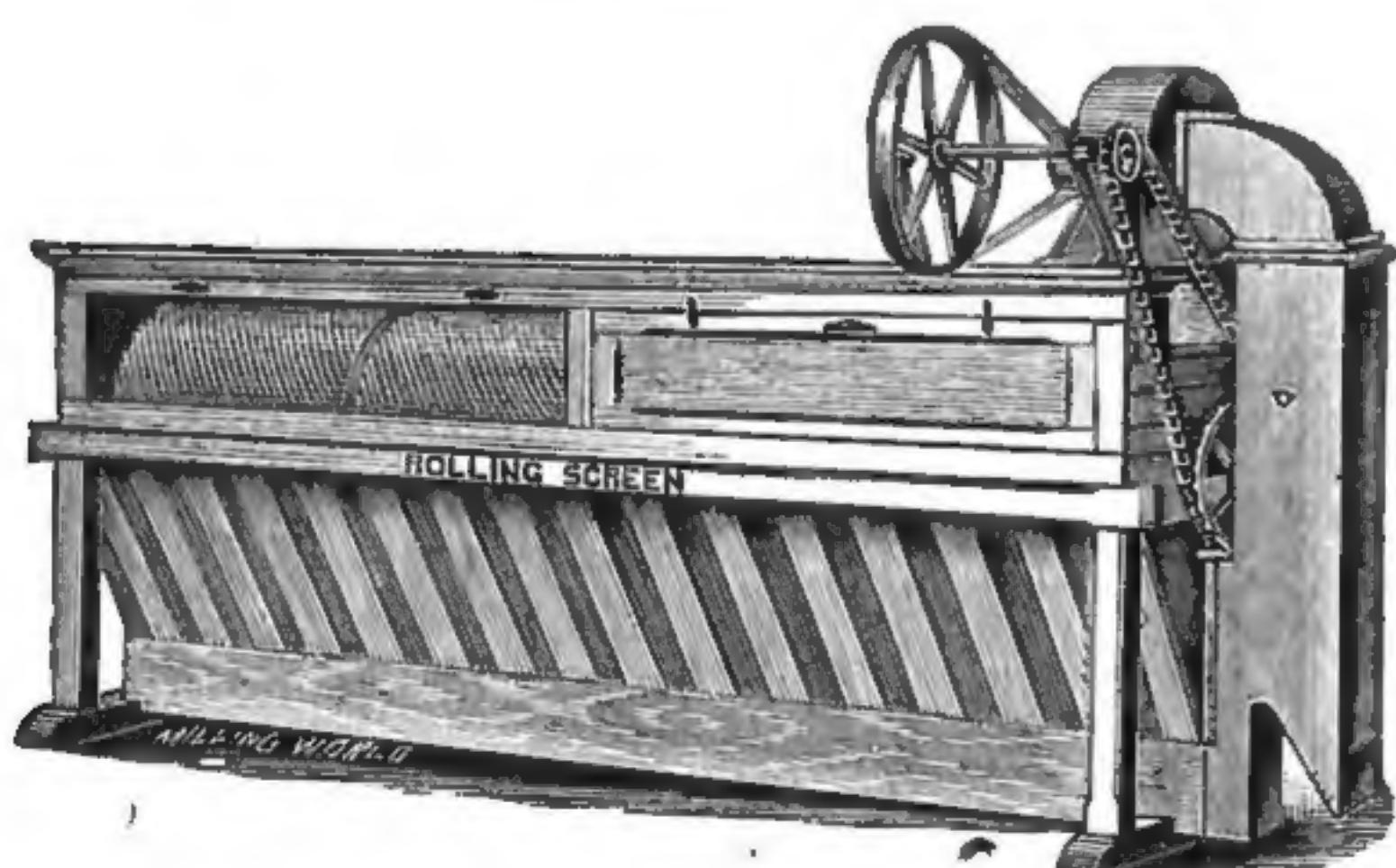
"The Rickerson." The original six inch 4 Roller Mill. We now own the patents on this mill and after greatly improving the mill manufacture them in four sizes:

6x12 inch.

6x18 inch.

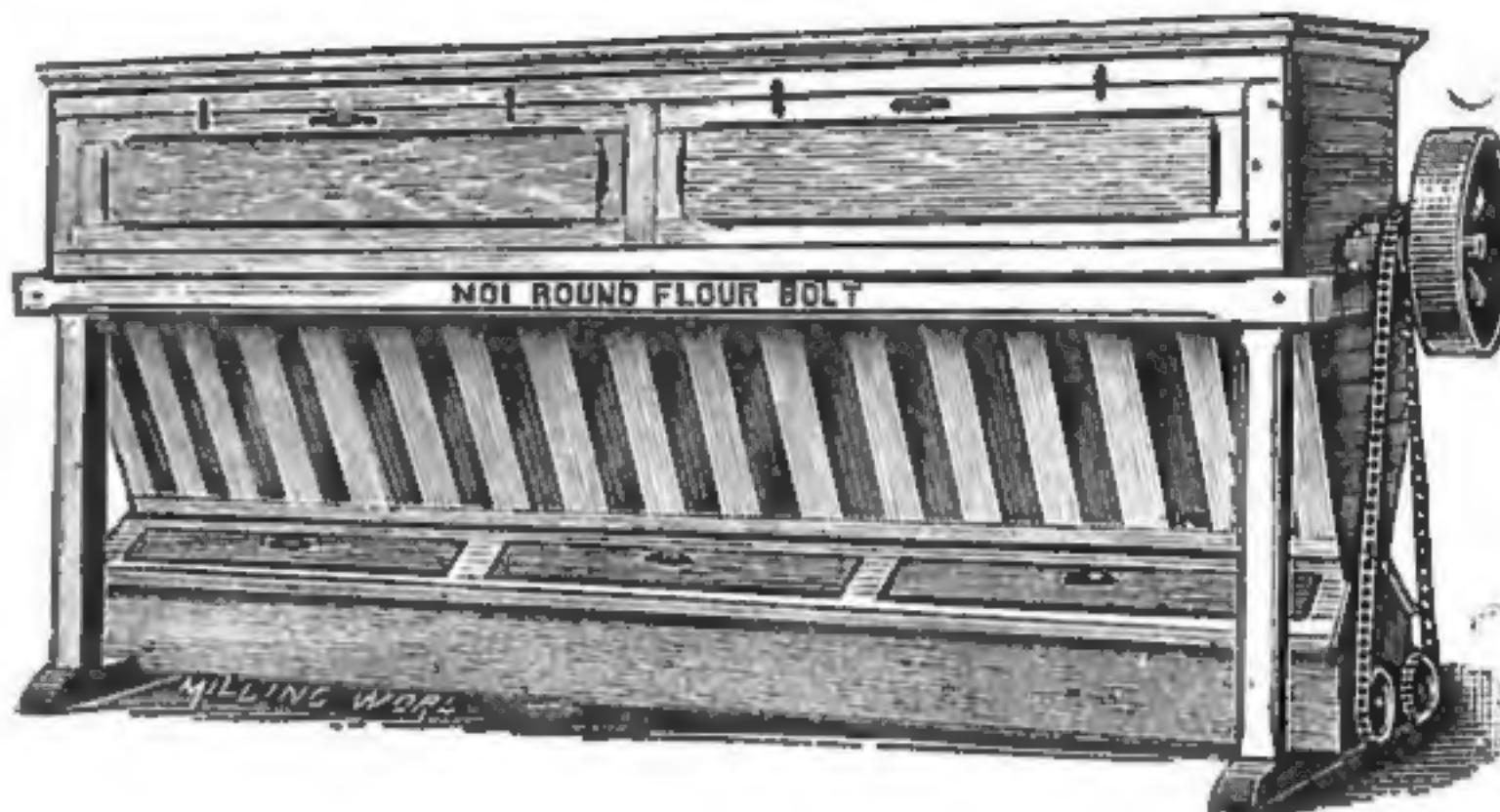
6x15 "

6x20 "

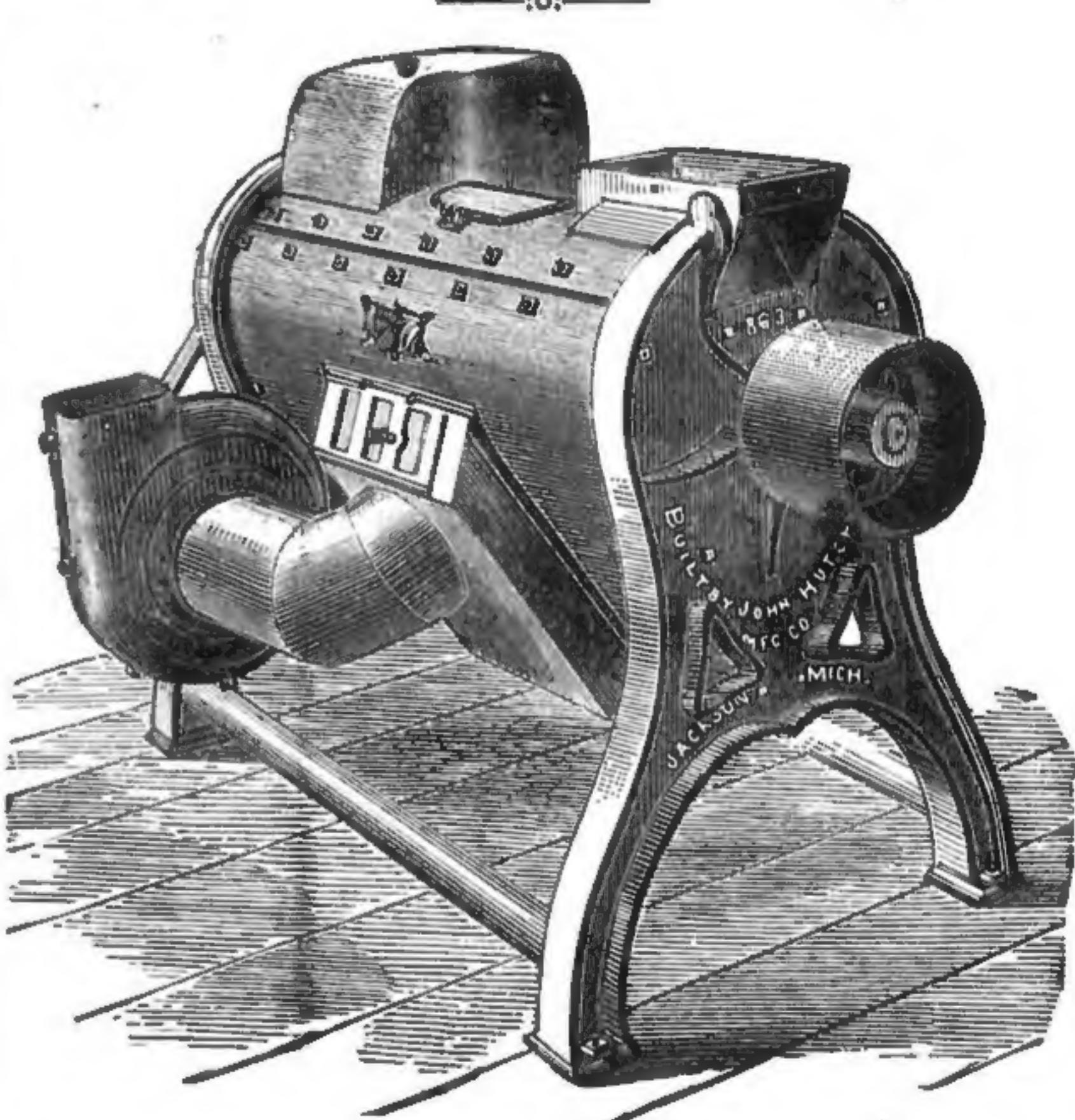


The above cut represents our New Rolling Screen, which is absolutely dustless and has as much scouring qualities as any two scouring machines now being made.

Send for Estimates for Our Full Roller Mills of any Capacity.



The above cut shows our New Round Slow Running Flour Bolt. We also build a Cylinder or Round Scalping Reel and we have lately built a number of new mills of medium capacity, using our Roller Mills, our Round Flour Bolts and Scalping Reels, getting better results than is usually obtained.



Hutchison's New Dustless Iron Corn Sheller, especially adapted for Mill and Elevator use.

—ADDRESS ALL CORRESPONDENCE TO:—

John Hutchison Mfg. Co.
JACKSON. - - - MICHIGAN.

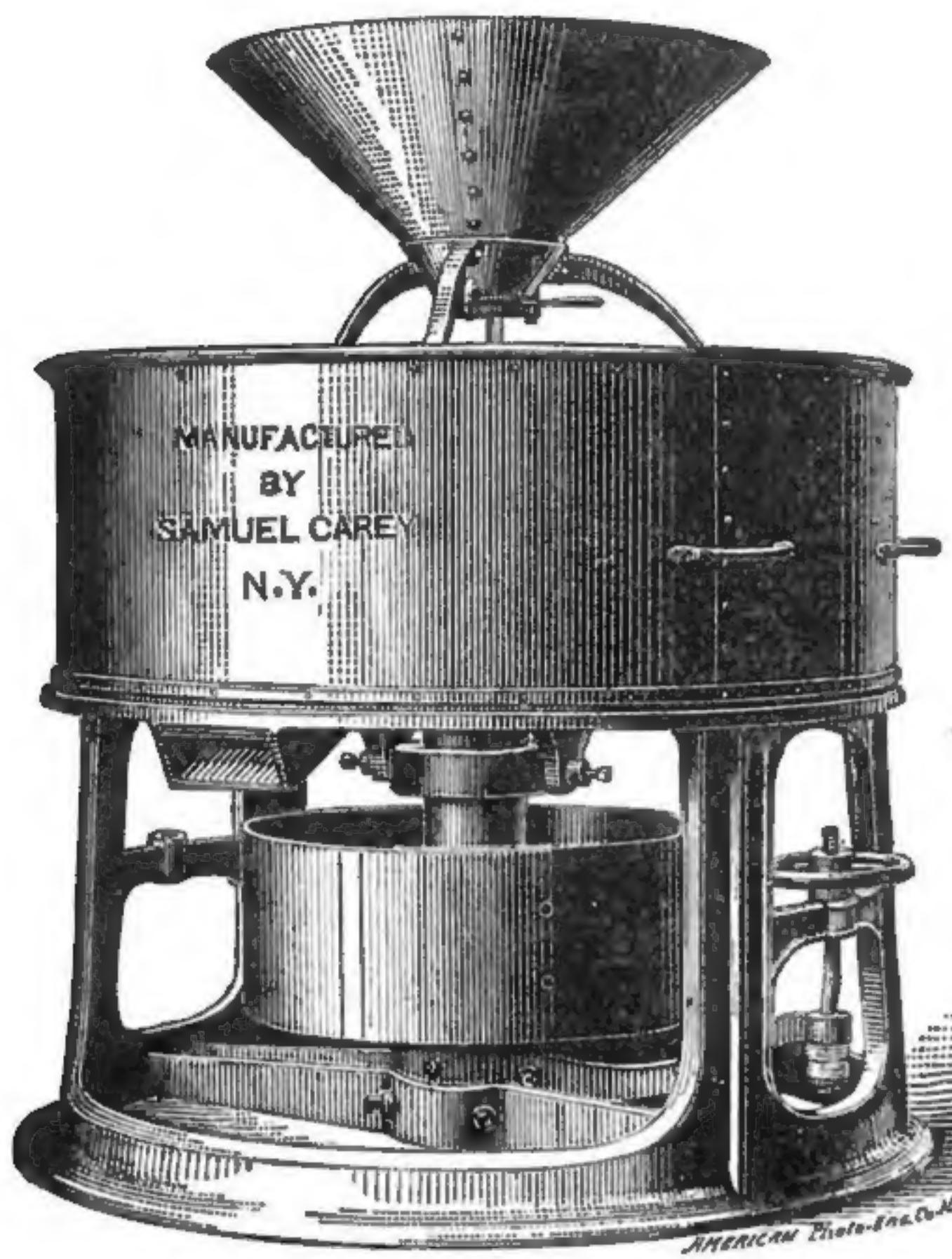


PLEASE NOTICE.

Our patents not only cover Seamless, Drawn, Stamped, Pressed or Forged Elevator Buckets; but also Pre-Date and Cover Round-Cornered Elevator Buckets when made Seamless, and are the Only patents ever issued in the World for a Pressed, Stamped, Drawn or Forged Seamless Elevator Bucket.

Stamping and Pressing of Sheet Metals for all Classes of Work. Also Tinning, Galvanizing and Japanning.

THE AVERY STAMPING CO.,
Successors to The Avery Elevator Bucket Co.,
Cleveland, Ohio, U. S. A.

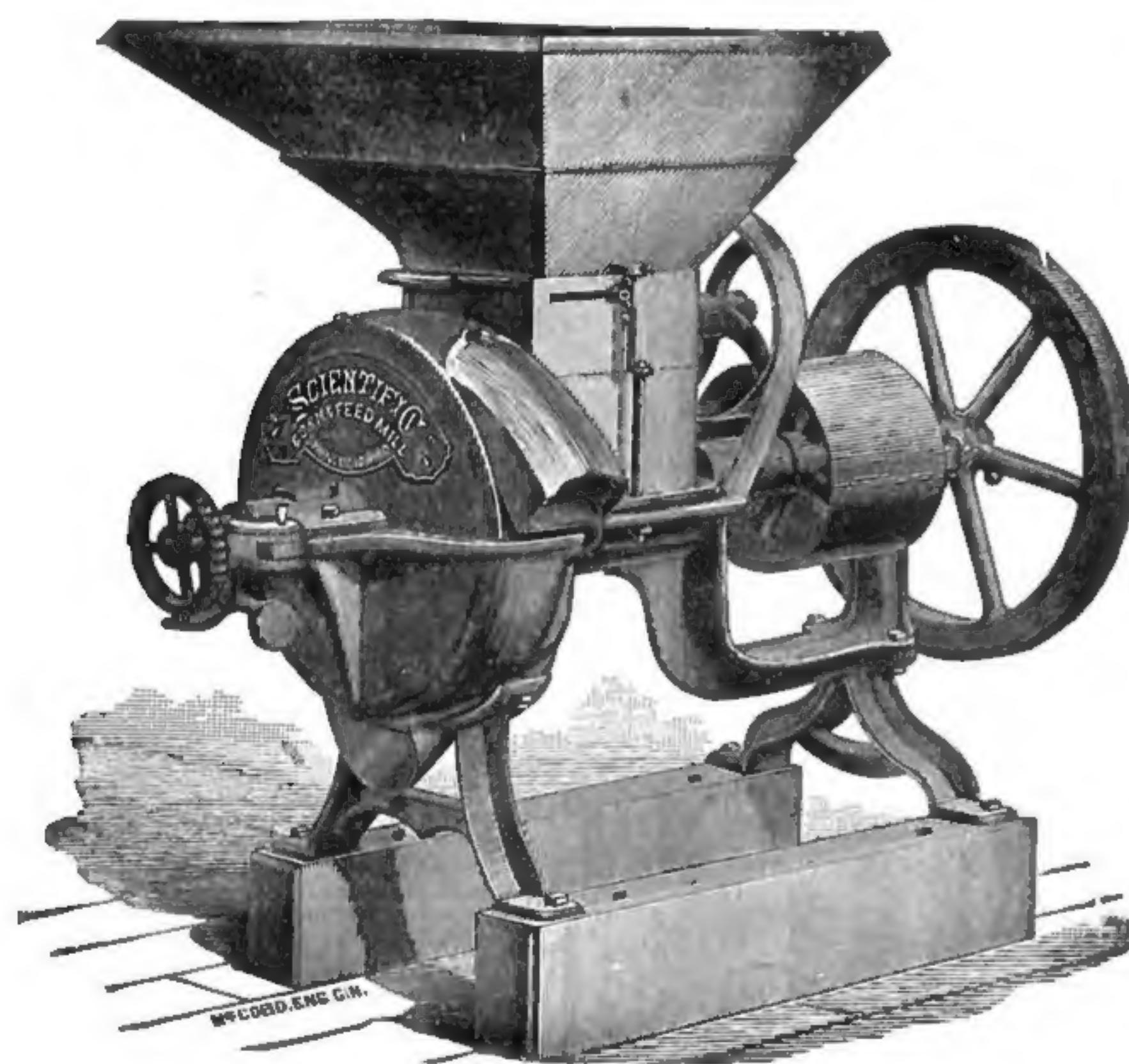


SELF-TRAMMING PORTABLE MILL BEST GRINDING MILL MADE. BOLTING CLOTH WRITE FOR DISCOUNTS.

BURR MILLSTONES CHEAP.

Send for "SPECIAL PRICES," Giving Size
Wanted, to

SAMUEL CAREY, 17 BROADWAY, NEW YORK



THE SCIENTIFIC GRINDING MILL.

POSITIVELY THE BEST MILL ON EARTH.

GRINDS PERFECTLY, EAR CORN, SHELLED CORN,
AND ALL GRAINS.

GRINDING PLATES A SPECIAL METAL

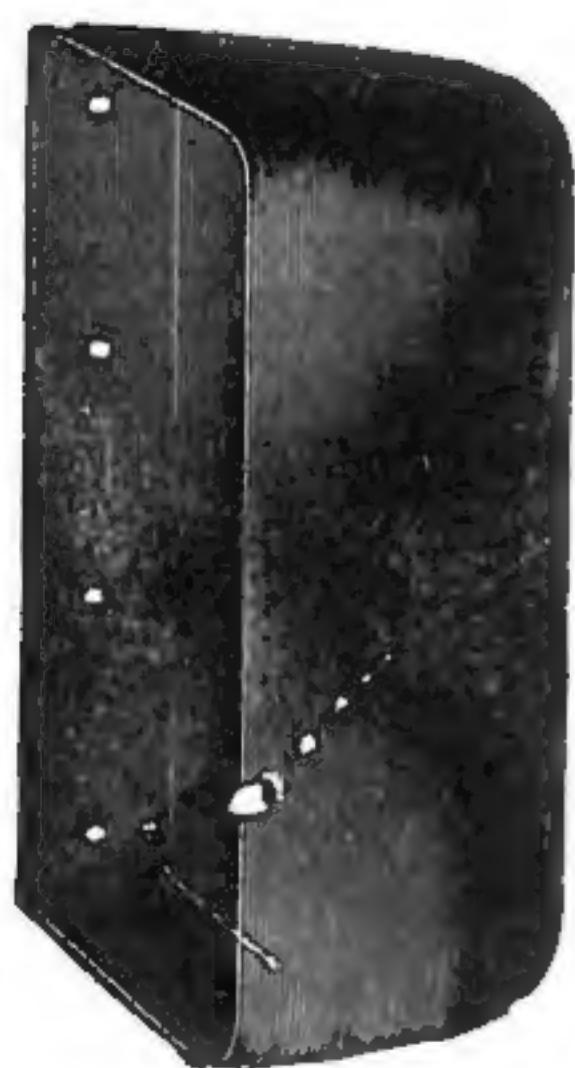
*Hard as Steel, Guaranteed to Grind from Five to Eight
Thousand Bushels before wearing out.*

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THE FOOS MFG. CO.

SPRINGFIELD OHIO.

STILL ON TOP.



Perhaps the HIGHEST COMPLIMENT that could be paid the "Salem" bucket is the fact that during the past few years ITS SHAPE HAS BEEN SO CLOSELY IMITATED by other manufacturers as to infringe our patented rights, but experience reveals the IMPERFECTIONS OF IMITATIONS, and we therefore take it as a FURTHER COMPLIMENT to the "SALEM" bucket that some of its old patrons who were *Induced to Try the Imitations have now Returned to the Salem Bucket, thereby Acknowledging it to be the Most Satisfactory.* Don't be deceived by other makes of buckets that are claimed to be "Just as Good." Insist upon having the ORIGINAL AND RELIABLE SALEM BUCKET. All legitimate Salem buckets are plainly marked with the word

SALEM

W. J. CLARK & CO., SOLE Manufacturers **SALEM, OHIO.**
THORNBURGH & GLESSNER, General Agents, CHICAGO, ILL.